

INTEGRATING INDIVIDUAL AND SOCIAL LEARNING STRATEGIES IN A  
SMALL-GROUP MODEL FOR ONLINE PSYCHOEDUCATIONAL  
INTERVENTION: A MIXED METHODS STUDY OF A PARENT-MANAGEMENT  
TRAINING PROGRAM

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## DEDICATION

For Marijane, my partner in parenting and life. Also, for Audrey and Graham and the families with whom I was fortunate to work and from whom I also learned much about parenting and life.

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My enormous thanks go to my Philip Ouellette, my dissertation chair for his mentorship throughout my dissertation. His generous sharing of his time and talent in social work practice and guidance in learning to use various e-learning authoring tools were invaluable. Without his guidance there would have been no online psychoeducational program, like the one created for this study. Importantly, Henry Merrill provided me with the opportunity to begin the process of designing an online psychoeducational training program with an eye toward crossing the gap between mental health psychoeducation and adult education, a linkage I believe has been long overdue in practice application. Hea-Won Kim has been a wonderfully challenging teacher, whose research knowledge and expertise were gratefully received both in the planning stage and during the last editing process. Her high standards were an important part of my ongoing reflection and efforts to excel. James Hall rescued this study, when the original recruitment plan was interrupted. With his enthusiastic support, ideas and guidance the recruitment process began anew, for which I am sincerely grateful. David Westhuis provided important encouragement and insights that supported me through the end stages of this work. Many other faculty members and colleagues were also contributors along the way, through their generous gifts of knowledge and support. These included Margaret Adamek, William Barton and Cathy Pike to name a few, as well as Richard Jones and James Brown for his sense of humor, reality testing and support.

David A. Wilkerson

**Integrating Individual and Social Learning Strategies in a Small-Group Model for Online Psychoeducational Intervention: A Mixed Methods Study of a Parent-Management Training Program**

In the fields of formal and informal online adult education, the absence of a social context for instruction has been found to present significant limitations for learner persistence and retention. In the field of online psychoeducational intervention, self-administered and self-paced individualized prevention programs have been developed for delivery to large populations of anonymous users. These delivery models provide limited social context for instructional activities, due in part to the anonymity of their participants. When social interaction is included in their prevention programs through voluntary, asynchronous self-help/mutual aid discussion forums, anonymity may still limit social interaction, in favor of observational learning advantages for self-efficacy appraisals derived from “lurking”. When these large-group models have been applied to online psychoeducation intervention programs for the purposes of encouraging mutual aid, interactive participation has been limited. This mixed methods study focused on a model for the design of an online small group psychoeducational intervention that integrated individual and social learning in a parent management training program. Self-paced participation was replaced with facilitator-led participation in an asynchronous discussion forum where topics were prioritized and sequenced with learning content from individual web-based training modules. Social interaction was facilitated through online problem-based learning discussion group. Despite assertions that interactive

participation in online psychoeducational discussion forums may only be accomplished once a subscriber threshold of several hundred participants has been reached, this study found that small group participation through the program's integrated design resulted large effects for increases in parent self-agency and reduction of over-reactive, coercive parenting behaviors. Participation in the online problem-based group discussion forum was found to have contributed to participant outcomes when posting characteristics revealed the presence of both mutual aid processes and the application of individual learning module content.

Phillip M. Ouellette, Ph.D., Chair

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## CHAPTER 1: INTRODUCTION

### **Internet Delivery of Intervention Services**

In the digital age, information technology and change have become synonymous. In the field of health care, the internet has provided a new means for service delivery. Suppliers can deliver more timely services for lower costs using fewer resources. Users can receive services more conveniently, while avoiding potential stigma and both suppliers and users can increase their control of services (Griffiths et al., 2006).

In the field of mental health, there are important public health goals that can support the advancement of internet delivery of services. Internet delivery may provide solutions for addressing large gaps that have been identified in the accessibility, availability and utilization of mental health services (Institute of Medicine, 2006) in tandem with an ever growing population of individuals experiencing mental health disturbances (Commission on Youth at Risk, 2003; Kessler et al., 2005).

In the case of psychoeducational group-based interventions, when programs are available, logistical problems often deter face-to-face delivery. Face-to-face psychoeducational group-based programs deliver content in a sequential fashion, prioritizing topics with a planned beginning and end. These group-based interventions can suffer when members miss meetings or drop-out and sufficient numbers of users cannot meet at a specific time or location over the course of an intervention. The anytime, anyplace capabilities of online delivery has the potential for reducing these types of logistical problems, as well as gaps in availability, accessibility and utilization of services.

An example of its anytime, anyplace advantages are illustrated in Ruggiero et al.'s (2006) feasibility study of the uses of online delivery, when face-to-face services cannot be accessed. In their study, intervention services were delivered through the internet for a range of mental health and substance use disturbances that were reactive to wide-scale disasters that disrupted the accessibility and availability of traditionally delivered mental health services. Branching navigation was used to individualize numerous intervention pathways, based on upon users' presenting problems.

Online psychoeducational and psychosocial program delivery like that demonstrated by Ruggiero et al. (2006) has emerged relatively recently. Online individual therapy with a mental health practitioner through e-mail emerged much earlier in the 1980's and online self-help groups emerged even earlier in the 1970's (Metatonia, n.d.). With the advancement of internet technology, numerous web-based programs serving a range of substance use and mental health difficulties are now available. For example, substance-use psychoeducational interventions include Alcohol Help Center (Evolution Health Systems, 2014) and the Drinker's Check-up, (Hester, 2014). Mental health psychoeducational interventions include Panic Center for anxiety (Evolution Health Systems, 2014), Moodgym and E-couch for depression (Centre for Mental Health Research at the Australian National University, 2014), as well as online intervention for post-traumatic stress disorder (Litz, Engel, Bryant, & Papa, 2007).

Similar efforts have now begun to translate Parent Management Training (PMT) for online delivery. PMT uses operant conditioning and other social learning principles to teach parents and/or caretakers how to manage, modify and cope with challenging behaviors in youths and adolescents. Traditionally delivered as a face-to-face



psychoeducational intervention, PMT has been rated as one of three evidence-based practices for intervention with Oppositional Defiant Disorder (ODD) and one of four evidence-based practices for Attention Deficit Hyperactivity Disorder (Kazdin, 2005). Numerous chronic, negative adult outcomes have been identified for both of these diagnostic conditions (Forgatch & Martinez, 1999; Patterson, Reid, & Eddy, 2002).

However, a frequent criticism of face-to-face PMT has been its limited success in retaining the participation of families, especially those of lower socioeconomic status (SES) (Assemany & McIntosh, 2002; Eamon & Venkataraman, 2003; Gross, Julion, & Fogg, 2001; Peters, Calam, & Harrington, 2005). Overall, participation rates have been seen to fluctuate between 40 to 60 percent (Flaherty, 1999). Rates tend to be lowest in programs for parents of adolescents (Barkley, Edwards, & Robin, 1999). For example, when the face-to-face, 12-session, Adolescent Transitions Program (ATP) (Dishion & Kavanaugh, 2003) was researched, high rates of drop-out occurred prior to the seventh session (Irvine, Biglan, Smolkowski, Metzler, & Ary, 1999b). Treatment gains correlated positively with the number of sessions attended, but only 46 per cent of the parents attended more than six sessions.

Low rates of participation are associated with numerous variables, not just lower SES. Other contributing factors include user-based variables, such as single-parent-headed households (Katz et al., 2001), younger parents (Reyno & McGrath, 2006), socially isolated parents (McCurdy & Daro, 2001) and parents exhibiting problems for depression, psychopathology or substance abuse and dependence (Barkley et al., 1999; Reyno & McGrath, 2006).

Program delivery-based variables also significantly—and too often adversely—influence participation. These have included: the setting and location of the program (Cunningham, Bremner, & Boyle, 1995), the time and day of delivery (Buchanan, 2006), the availability of childcare (Katz et al., 2001), the delivery method (Cunningham, David, Bremner, Rzasa, & Dunn, 1993b) and trainer-based behaviors (Dishion & Kavanaugh, 2003), such as ignoring group dynamics, in service of adherence to a manualized set of procedures.

Internet delivery has been advanced as one possible stratagem for improving participation and outcomes. Taylor et al. (2008) researched internet-delivery blended with home coaching to deliver an evidence-based parent management training program. In this hybrid model, learning was self-administered but not self-paced. Program content was sequentially delivered through home computers loaned to families and supported through the use of coaching. The coaching goal was, in part, to improve motivation for participation and intervention adherence. In the final year of this multi-year study, 76 percent of the participants completed the program. The superior participation and completion rates for this blended online program are important because the participants were parents of lower socio-economic status (SES) with moderate to limited computing skills (Taylor et al., 2010).

### **Individual and Social Factors of Learning**

Participation and intervention adherence are corollaries to learning effectiveness. Learning effectiveness includes both individual factors, like internal motivation and social factors, like peer support and collaboration. The relative balance of these two factors has been debated through varying applications of the foundational developmental

learning theories of Piaget and Vygotsky (Darling-Hammond, 2003). Is learning effectiveness primarily dependent on individual development, as proposed by the cognitive theories of Piaget? Or is effectiveness a product of learner interaction with the social environment, as proposed by the cognitive theories of Vygotsky?

A criticism of emphasis on only individual factors is typified in Charles Dickens' (n.d.) exhortation from a stern schoolmaster:

NOW, what I want is, Facts. Teach these boys and girls nothing but Facts. Facts alone are wanted in life. Plant nothing else, and root out everything else. You can only form the minds of reasoning animals upon Facts: nothing else will ever be of any service to them. This is the principle on which I bring up my own youth, and this is the principle on which I bring up these youth. Stick to Facts, sir! (Chapter one, para. 1).

However, contemporary research on the effects of individual and social factors are replacing these historical and deterministic explanations of learning with more current understandings that point to their bidirectional and interactive influence upon one another (Kankanhalli, Pee, Tan, & Chhtwal, 2012).

**Interactive effects.** The research of Kankanhalli, Pee, Tan and Chhtwal (2012) has contributed to the contemporary understanding of the importance of both individual and social factors on learning effectiveness. In their research with undergraduate students, they identified three individual and three social factors that have either direct-only or interactive effects. Their individual factors included “absorptive capacity”, “knowledge sourcing initiative” and “learning orientation”. Social factors included “network ties”, “shared understanding” and “pro-sharing norms” (p. 118).

Of the individual factors, “learning orientation” was most important, exhibiting both direct and interactive effects on learning. It was defined as “the extent to which individuals expend effort to take up challenges to enhance their skills” (Kankanhalli, Pee, Tan, & Chhtwal, 2012, p. 120). Of the social factors, “pro-sharing norms” was the most important, exhibiting both direct and interactive effects. It was defined as “the degree of consensus regarding knowledge sharing in a social system and includes norms of collaboration, willingness to value diversity, and openness to conflicting views” (p. 118).

**Social factors and online intervention.** Individual factors in online learning effectiveness are supported by the content storage and retrieval advantages of the internet for performing rapid information searches to enhance discovery and learning. Social factors are supported through various synchronous and asynchronous tools like chat rooms, discussion forums, and email that create social contexts for learning.

Negative outcomes, due to the absence of an interactive social context have been demonstrated in the research on high rates of drop-out in online adult education (Angeleno, Williams, & Natvig, 2007; Jun, 2005; Poellhuber, Chomienne, & Karsenti, 2008). The importance of providing an interactive social context for learning in adult psychoeducational interventions like PMT would also be assumed to be important for achieving effective participation. Within the area of psychoeducational intervention, a key concept that encompasses the social features of learning for achieving training effectiveness is “mutual aid”.

**Mutual aid.** Mutual aid is the planned or unplanned process and outcome of social interaction between peers where some common problem, life circumstance, symptom or experience is shared (Borkman, 1999). The processes and activities of

mutual aid have been associated with numerous positive psychological and physical health, adaptive coping and problem solving outcomes (Davison, Pennebaker, & Dickerson, 2000; Jacobs & Goodman, 1989; Wituk, Shepherd, Slavich, Warren, & Meissen, 2000). Mutual aid has a long history of use with a wide array of human problems. The 12-step program for alcohol dependency is one of the most notable examples. In fact, each disease category covered by the World Health Organization has an associated mutual aid/self-help group (Rissman & Banks, 2001).

Currently, many online program-based, psychoeducational interventions are preventative in nature, in part due to their goals for the enrollment of large populations of participants. Their prevention and enrollment goals require anonymous participation. These programs take advantage of the asynchronous or any-time, any-place delivery capacity of an online instructional environment, increasing program availability and removing physical and temporal obstacles to participation.

However, many do not include an interactive social context like discussion forums or email for the inclusion of social interactions that can enable mutual aid. They rely only on individualized learning of text-based content and information. For example, MoodGym (Centre for Mental Health Research at the Australian National University, 2014) is a public health, cognitive-behavioral intervention program for mental health problems like depression and anxiety. Its design and content provide a thorough and well-organized means for individuals that have strong learning orientations to receive self-paced instruction. However, without the interactivity derived from social features, as in the example of coaching described by Taylor et al. (2010), increased convenience and availability may not be sufficient to achieve effective rates of participation. This may be

especially true, when individual factors that are associated with learning effectiveness like persistence, are weaker. In this case, participants who experience frustration with learning difficulties can be at greater risk for drop-out. To achieve effective levels of participation, retention, and instruction, when designing online intervention programs, it would also be important to consider the interactive social context and the inclusion of social factors that contribute to learning effectiveness.

### **Future Directions for Online Psychoeducational Intervention**

Currently, many online-only programs have been designed for various public health initiatives for preventive purposes to reach large numbers of individuals within at-risk populations (Christensen, Griffiths, & Jorm, 2004). When the public health goal is to reach very large populations that might not otherwise receive services, participant anonymity and low levels of participation and retention may not be significant problems (Spath, Kavanagh, & Dishion, 2002). However, mental health agencies and practitioners that deliver face-to-face treatments may discover advantages for hybrid delivery of their services through inclusion of an adjuvant online component. One advantage would include balancing cost-effectiveness and the quality of services. In the United States, public payers like Medicaid, private insurance-based payers or employee assistance programs stipulate the total number of outpatient visits allowable. Generally, there are also stipulations on the number of visits allowable within one week and the amount of time allowable per visit. In the case of individually-focused adult treatments, these stipulations may not necessarily be a problem. However, in the case of youth and adolescents where effective treatment often must include family members, restrictions on the duration, periodicity and length of treatment often become obstacles to effectiveness.

Including adjuvant online components may be a cost-effective method for extending and increasing treatment intensity and depth to achieve more family-inclusive service delivery.

### **Study Purpose**

This research explores the effectiveness of an online learning environment for PMT that integrates individual and social features of learning in program delivery. The program's online learning environment represents a model for the design and delivery of a psychoeducational online intervention designed for small-user groups. It could be delivered to individuals that receive treatment services as identified clients that are known to a service provider.

The significance of this research is based on the fact that the gap between those needing mental health and substance abuse care and those receiving appropriate care has continued to grow (New Freedom Commission on Mental Health, 2003). Both the Commission on Youth at Risk (2003) and the Institute of Medicine (2006) have identified serious shortfalls for the delivery of adequate mental health and substance abuse services in the United States.

Internet delivery of services has the potential for overcoming these gaps in accessibility and availability, based on their logistical and economic advantages for both users and suppliers. In addition, technological advances are reducing the digital divide for internet connectivity between advantaged and disadvantaged socio-economic groups (United States Census Bureau, 2013). Consequently, this research assumes the availability and cost-effectiveness of these services could be enhanced, if online

psychoeducational and psychosocial programs can be designed for effective online-only or hybrid operation in treatment regimens for clients seeking assistance.



## CHAPTER 2: LITERATURE REVIEW

### **Parent Management Training**

Constance Hanf, a psychologist practicing at the Oregon Health Services University during the 1960's, has been credited as the innovator of behaviorally-based PMT (Eyberg & Boggs, 1998; McMahon & Forehand, 2003). Her contributions began with an investigation of behavioral modification applications for the treatment of aggressive youth. Responding to play therapy's inconsistent outcomes with externalizing child behaviors, Hanf (1969) developed a program that trained parents, the most proximal and ecologically fundamental feature in the lives of youth, to modify noncompliant and aggressive behaviors.

**Behavioral PMT.** The Hanf model of PMT is a two-stage program that consists of the "Children's Game" and the "Mother's Game". In stage one, the Children's Game, a parent wears a wireless earphone and a therapist coaches the parent from behind a one-way mirror to join their child in play. The goal is to train parents to differentially reinforce behavior with attending skills, positively attending to cooperative behaviors, while ignoring misbehavior. In stage two, the Mother's Game, the wireless earphone is again used and a therapist coaches the parent in more directive PMT techniques. These include skills like "Prompting", "Praise", "When-Then" and "Time-out". Both the Children's Game and the Mother's Game demonstrate the learning principles of operant conditioning (Skinner, 1953), as parents are taught to deliver positive and negative reinforcement to increase the stimulus-control of their antecedent prompts over their child's behaviors.

Over decades, behavioral researchers have continued to develop Hanf's behavioral practice of PMT (Eyberg, & Boggs, 1998; Webster-Stratton, 2000) into programs that meet today's more rigorous standards of evidence-based practice (Barth, et al., 2005; Eyberg & Boggs, 1998; Webster-Stratton, 2001). Practice applications have also grown from individual treatments with parents of young children to include a heterogeneous set of programs that are delivered to groups of parents of older youth and adolescents for prevention, at-risk intervention and indicated treatment (Kazdin, 2005).

One goal of this developmental evolution has been to address PMT's problems for recruitment, retention and poor treatment- response for parents who have not benefitted substantially from intervention. Single-parents (Lundahl, Risser, & Lovejoy, 2005), minority and ethnic parents (Martinez & Eddy, 2005), lower SES parents (Eamon & Venkataraman, 2003), less educated parents (Cunningham et al., 1995) and mothers experiencing depression along with other forms of psychopathology (Reyno & McGrath, 2006) have all been identified as achieving poorer outcomes, compared to their married, Caucasian, middle class and better educated counterparts. Logistical factors have demonstrated barriers to enrollment (Cunningham et al. 2000). Travel distance, time of day, day of week, program location and childcare arrangements are important determinants of recruitment (Buchanan, 2006). Some PMT programs like COPE (Community Parent Education) (Cunningham, Bremner, & Secord, 1998) have been modified or delivered with ancillary programs to address these limitations and some have demonstrated to improve participation and outcomes (Cunningham et al., 1995; Fabiano, 2007; Kazdin & Whitley, 2004; Martinez & Eddy, 2005).

**PMT theory expansion.** Although PMT programs have continued to be based largely on operant conditioning theory, the significance of PMT practice has also been extended by research that is based on observational and social learning theories (Bandura, 1973). The work of Patterson (Patterson et al., 2002) and his colleagues at the Oregon Social Learning Center (OSLC) extended behavioral theory by shifting its unidirectional operation to one that is bidirectional. Using observational learning theory, Patterson, Reid, & Dishion (1992) investigated the etiology of antisocial behavior. Their Coercion-Process Theory provided researchers and practitioners with an empirically supported, bidirectional, developmental model for understanding the genesis and maintenance of antisocial behavior from childhood into young adulthood (Dishion & Bullock, 2002; Shaw, 1993). It predicts how interactive factors like a challenging child temperament, parent psychopathology or stress, can unfold a series of developmental stages, which result in antisocial outcomes.

The coercive process begins when both parent and a child's use of aggression, intimidation and noncompliant behaviors are mutually negatively reinforced. Negative reinforcement occurs when an aversive stimuli is removed, as the result of a response to that aversive stimuli. Reciprocal and escalating aggressive displays between parent and child are negatively reinforced, when they halt behaviors that are experienced as aversive and ultimately parents are detoured from obtaining even temporary compliance. If this process unfolds at school with peers and teachers, antisocial outcomes are likely, because the use of noncompliance and aggression prevent a child from observing and learning more adaptive prosocial and competency-based life skills (Forgatch & Martinez, 1999). Over time, adaptive problems in the classroom and academic failure result in social group

membership that is limited to groups of deviant peers that engage in delinquent behaviors.

Because research demonstrated that antisocial behaviors could be developed and maintained by parent-child relationships (Forgatch & Martinez, 1999), PMT was recommended as a preventive intervention for widespread dissemination in schools to parents of youth and young adolescents (Dishion & Kavanaugh, 2003; Eddy, Reid, Stoolmiller, & Fetrow, 2003). The OSLC model of PMT has also been nationally disseminated in Norway (Ogden, Forgatch, Askeland, Patterson, & Bullock, 2005).

However, in the United States, PMT program dissemination has been more limited. Given its long history, as a strongly evidenced-based practice for increasing parent management skills and decreasing youth defiance and non-compliance, Kazdin (2005) noted it to be ironic that in the field of mental health, child and adolescent practitioners are rarely trained in its method. Biologic interventions such as pharmacotherapy have predominated in this field and as a result, some have reported a decrease in the delivery of psychosocial interventions (Duncan & Miller, 2000; Harris, 2006; Olfson, Gameroff, Marcus, & Jensen, 2003).

The internet can offer new opportunities for program enrollment and delivery (Cucciare & Weingardt, 2007). As access to information technology expands in all sectors of society, throughout urban and rural areas and in both home and workplace, the internet is increasingly being promoted as a cost-effective tool for delivering not only information but psychoeducational and psychosocial services as well (Christensen et al., 2004; Farvolden & Mierlo, 2003; Feil, et al., 2008); Griffiths, Lindenmeyer, Powell, Lowe, & Thorogood, 2006; Maheu, 2000).

### **Online PMT Psychoeducation**

Database searches over the past decade using ERIC, Medline, PsycARTICLES, PsycINFO, Social Services Abstracts, Social Work Abstracts Plus, Sociological Abstracts with keywords including: (1) behavioral parent training, (2) parent management training, (3) parent education, (4) family life education and (5) family strengthening, identified three PMT programs that were delivered as computer-assisted or online-only interventions. Two of these programs are commercially available: Foster Parent College, (Northwest Media, 2014) and Parenting Wisely (Family Works, Inc., 2014). The unavailable program was developed and conducted as a part of dissertation research (Mackenzie & Hilgedick, 1999). All exhibited limited interactive designs and were based on information-driven, self-administered, self-paced, individual models of learning. In addition to these three programs, one hybrid or blended PMT program was identified (Taylor et al. 2010).

**Parenting Wisely.** Two commercial programs are available to the public through the Internet: Parenting Wisely (Family Works, Inc., 2014) and Foster Parent College (Northwest Media, 2014.). Parenting Wisely was originally developed as a self-administered, computer-assisted intervention that was delivered with CD-ROM. The total time for administration was suggested as two to three hours for participants with a fifth- grade reading level. Recently, a self-administered, online version for parents of adolescents became available. The program was described as follows:

Parents choose from nine different video enactments of typical family struggles, from teenagers playing loud music to trouble in school and more. After viewing the conflict, users must choose from a list of options representing different levels of effectiveness. Each behavior is portrayed and then critiqued through an interactive question and answer session. The in-depth tutorials highlight the parenting skills depicted and

give further insight into beneficial behavior. Each session is then concluded with a quiz, further engraining the information (para 2).

The online program does not include facilitator or peer-to-peer contact through email or discussion forum. Individual learning is accomplished with tutorials that are delivered through multimedia with video, text and accompanying audio. Each training module begins with a presentation of a parent-child conflict scenario. After the video vignette, the parent selects one of three possible responses. Two of the three responses represent examples of poor parenting. After a response is selected, its outcome is demonstrated through another video vignette. The viewer is then presented with a series of questions that illustrate either strengths or weakness for that parental response. Parents can continue to make choices until they chose a positive response to the problem.

The Parenting Wisely program's website (Family Works, Inc., 2014) stated that it is recommended for mental health agencies, family support agencies, schools, and juvenile detention centers. Because it is suggested only for use as a component of an overall agency program, Parenting Wisely would be considered an adjunctive treatment. Program delivery operates through individual or agency purchase of user-subscriptions that allow the program to be administered to clients in their homes. Agency personnel can use the program's tracking software, as a means to monitor their clients' progress.

Research has shown experimental groups using Parenting Wisely improved on proximal parent outcomes for knowledge and parenting self-efficacy (Lagges & Gordon, 1997; O'Neill & Woodward, 2002; Segal, Chen, Gordon, Kacir, & Gylys, 2003). One study showed improvement compared to controls for distal child outcomes for reductions in noncompliance (Kacir & Gordon, 1997).

**Foster Parent College.** The website, Foster Parent College (Northwest Media, 2014) states that this intervention program was developed for the purposes of addressing problems of accessibility and availability of intervention assistance for foster, adoptive and kinship parents of a population of youth with markedly atypical behavioral problems (Pacifici, Delaney, White, Nelson, & Cummings, 2006). The website offers thirteen independent behavior-management course modules that are self-administered. Courses require between 30 and 40 viewing minutes. In addition to the individual learning program, an asynchronous discussion board is available for parents to ask questions or share information about the course material being discussed. Course titles include “Lying”, “Sexualized Behavior”, “Anger Outbursts”, “Fire-Setting”, “Self-Harm”, “Sleep Problems”, “Wetting and Soiling” and “Stealing”. Each course is delivered through a multimedia presentation that is followed by interactive review questions. Like Parenting Wisely (Family Works, Inc., 2014), program delivery can be individually purchased or agencies can purchase course units and assign them to parents. Unlike Parenting Wisely, parent utilization cannot be monitored online; however, parents can complete a proficiency exam and receive certification after passing.

Pacifici et al., (2006) researched Foster Parent College’s proximal outcomes with an experimental group of foster parents for knowledge and self-efficacy when dealing with course content areas of lying and sexualized behavior. Immediate post-course outcomes were significant for the experimental group of foster parents for improvement in knowledge about lying and sexualized behavior. Self-efficacy reached significance for foster parents dealing with the subject area of lying. The researchers noted that efficacy

for dealing with sexualized behaviors did not reach significance, though data was reported as near significant.

**CAPP.** The “Computer Assisted Parenting Program” (CAPP) (Mackenzie & Hilgedick, 1999) was modeled on the Hanf PMT program and included two modules, simulating both Hanf’s Children’s Game and her Mother’s Game. The program was delivered as a self-administered, individual learning program. Delivery was computer-assisted with a CD-ROM. Attempts to deliver it as a web-based program failed due to technological limitations at the time (E. MacKenzie, personal communication, November 19, 2008). An example of program interactivity is as follows:

A boy sitting on a couch, playing a video-game, is pictured on the computer screen. The user views a series of interrupted sequences during which the father attempts to get his son to wash-up for dinner. During the break in each sequence, the user chooses an appropriate action from a list of alternatives. For example, in one sequence, the father gives his son a command to wash-up for dinner and the child continues playing the video-game. The animation stops and the user is asked to choose from the following options: “(a) put the child in time-out, (b) wait five seconds for compliance, or (c) repeat the command.” The user chooses a statement and corrective feedback is provided (Mackenzie, & Hilgedick, 1999, p. 28-29).

Very similar to Parenting Wisely’s instructional format, the latter’s corrective feedback would come in the form of brief video demonstration and audio discussion of the outcome of each choice.

A feasibility study of CAPP that measured proximal parent outcomes for increased knowledge and utilization outcomes for program satisfaction was completed with 24 undergraduate students (Mackenzie & Hilgedick, 1999). In addition, 46 parents of three to five year old children without significant behavioral problems were tested for proximal parent outcomes of knowledge and stress reduction, utilization outcomes for



consumer satisfaction, and distal child outcomes for improved compliance. This study compared randomized experimental, control and booklet treatment groups. Utilization outcomes were greater for the computer-assisted program. No differences were found on proximal or distal measures between the experimental, control and the booklet groups. The investigators believed this resulted because the sample only included youth that did not display clinically significant conduct problems at baseline.

**Hybrid programs.** Hybrid programs are those that are delivered online but also include some face-face components. Many web-based PMT programs are adjunctive or adjuvant programs that were recommended or designed for delivery alongside other agency programming. They are designed as self-administered programs and are based on individualized models of learning. In contrast, a recent hybrid PMT program illustrates a design that integrates individual learning with an interactive social component. An example of this is the “Incredible Years Group Parenting Program” (Taylor et al., 2010) which is based on Webster-Stratton’s (2001) evidence-based PMT program. This hybrid program researched intervention effects for a population of Head-Start parents of four-year-olds, who were reported to be in the upper 33 percent of standardized ratings for disruptive behavioral problems.

The self-administered, web-based individualized instruction component of the program includes 250 sequenced video vignettes. As participants view these vignettes, they must respond to program- content before they can advance to a new series of video vignettes. The program also includes two interactional components: face-to-face coaching and an asynchronous peer-to-peer discussion board. Unlike the previous examples of online parent training, this program included opportunity for parents to meet

with coaches by e-mail, telephone and in their home. Five home visits were made and parents role-played and rehearsed web-based instruction with their coaches during visits. Coaches also posted frequent electronic reminders and made weekly check-in calls.

Coaches and supervisors used web- tracking software to review participants' usage and progress. Home visits were scheduled based on parents' progress via an analysis of usage patterns made available by tracking software. Motivational aspects of coaching visits included goal setting, praise and tangible reinforcement with gift certificates, whose value increased as parents progressed through the program.

To include peer-to-peer interaction, an asynchronous discussion board was made available and coaches encouraged parents to post messages. Although the coaching component was seen to be effective, the peer-to-peer interactive component was not. For the most part, participants only read messages without replying or posting their own. However, a few isolated parents found the forum valuable, as they formed virtual friendships with other parents on the discussion board.

Other research was conducted using randomization and a no-treatment control group. One hundred and seventy-seven participating parents had a mean income between \$10, 000 and \$14,000 per year. Only 59 per cent of the parents had moderate familiarity with computers. Computers were made available to study participants in seven urban and rural Head Start districts. In their discussion of satisfaction, attendance, program and goal completion, results were comparable to face-to-face delivery of the "Incredible Years Training Series". In addition, the online program allowed some participants who would not have been able to attend the face-to-face sessions because of chronic health problems to complete the program. The research illustrates that an intervention delivery

design that includes both individual and social learning may be fundamental for evolving intervention from prevention or adjunctive intervention to front-line, treatment intervention.

### **Social Context and Interaction**

In their current design, most web-based psychoeducational intervention programs deliver instruction through self-administered, self-paced, information-driven methods. These are based on individualized models of learning that support individual factors of learning effectiveness. This type of online instructional design has been challenged by high drop-out rates and low rates of participation in formal education (Poellhuber et al., 2008). Jun (2005) identified five factors that influence online drop-out rates: individual background, motivation, academic integration, social integration, and the technological environment. Of these categories, learner isolation and a lack of instructor and/or peer interaction were frequently cited factors that predicted attrition. Angeleno et al.'s (2007) review of the literature on attrition in online adult education also identified isolation as an important factor. They recommended instructional strategies to enhance the interactive social context of online learning. These included attending to learner integration and engagement through interaction with an instructor, using learner-centered approaches to tailor instruction, and creating peer-to-peer interaction with learner communities.

Although less research is available in the area of web-based psychoeducational programs as opposed to online education, problems for participation have also been discovered. For instance, Clarke et al., (2002) compared a web-based, self-administered, self-paced, cognitive-behavioral skills training program for depression to a general

information-only website. The mean rate of participation to the randomized intervention for the study duration was 2.6 sessions and no effects on depression were found.

Online discussion forums have sometimes been added to individualized web-based intervention to increase interactive participation and bolster learning effectiveness. In this review, these will be characterized as “self-help/mutual aid discussion forums”. The terms “self-help” and “mutual aid” have been combined or used independently to convey the concept of an association of voluntary, peer-to-peer, self-selected, self-directed and self-supported collective of individuals. Participation may vary and has included face-to-face groups, phone-to-phone, or numerous virtual mediums including bulletin board, chat rooms, and discussion forums. Self-help/mutual aid has also suggested the impetus for participation to be a specific problem or concern for which members seek public, peer-to-peer interaction. These terms have also resulted in other terms that share similar meanings: “self-help group”, “mutual help group” and “mutual support group”. Borkman (1999) described these terms as embodying the adage “you alone can do it but you cannot do it alone” (p. 5). The underlying premise is that voluntary participation within a collective of individuals that share a common problem enables the individual to take responsibility for ameliorating their difficulty through an interactive process that includes helping others.

When self-help/mutual aid discussion forums are included in online psychoeducation program-based prevention and intervention, they generally provide multiple topic areas around which participants can voluntarily contribute, as in the examples of the Alcohol Help Center, the Panic Help Center and the Stop Smoking Center (Evolution Health Systems, 2014). However, when these self-help/mutual aid

discussion boards have been added, utilization has often been low (Mierlo, 2014). Some self-help/mutual aid online discussion forums have been moderated however, in these cases, topic content is not prioritized for sequential, facilitator-paced discussions, as would occur in small, formal adult learning environments. Therefore, the effects of moderation on participation and outcomes are unclear. In fact, reports of participation with online self-help/mutual aid discussion forums present a confusing picture about benefits for participation and intervention outcomes.

**Online discussion forums.** Farvolden and Mierlo (2003) described two moderated self-help/mutual aid discussion forums. One was offered alongside a self-paced, psychosocial intervention for anxiety, The Panic Center (Evolution Health Systems, 2014) and had low levels of participation. During a fourteen month period, 664 registrants logged on the program's discussion board. These registrants equaled 23 percent of the program's total. The average posts per registrant were four. The other self-help/mutual aid discussion board was offered alongside a self-paced, psychosocial intervention for smoking cessation. This forum had high levels of participation. The "Stop Smoking Center's" (Evolution Health Systems, 2014) discussion board enrolled 2,231 registrants, representing 77 percent of the total registrants to the program. Smoking-cessation forum participants averaged 33 posts compared to the anxiety discussion forum average of only four posts. The large variation in posts between the two programs, both developed by Evolution Health Systems, suggests discussion forum participation may vary based on the subject of the program intervention.

Steed (2005) provided a discussion board, alongside individual web-based "lessons" for an online family life education program. Almost half of the program's

visitors chose the self-help/mutual aid discussion board over the individualized instruction. She concluded that visitor preference for the discussion board over web-based “lessons” represented ... “a preference for interactivity or the common sense advice based on the experience of the lay participant” (p.66). However, most discussion forum visitors did not actively participate. Their low rates for participation were described to have resulted from the board’s insufficient posts, thus reducing visitor engagement and return to the forum. Given the asynchronous nature of discussion forums and the time gaps between posts and replies, low participation rates have been described by Taylor et al. (2010), as simply a consequence of the overall number of participants in a forum.

Taylor et al.’s (2010) hybrid PMT program included a self-help/mutual aid discussion board in which only a few participants posted messages. Low participation rates led them to observe that a subscriber threshold of at least several hundred participants must be crossed before interactivity can emerge. However, this observation does not hold for the anxiety management program discussed by Farvolden and Mierlo (2003). The program’s discussion board enrolled over 600 participants, yet interactivity was minimal.

**Lurkers and interaction.** Eysenback, Powel, Englesakis, Rizo, and Stern (2004) completed a systematic review that included 38 studies of mutual aid virtual communities and electronic support groups collected from numerous databases across medical and social science disciplines for time spans of up to 37 years. Although they failed to find evidence of negative effects, they also failed to find strong evidence for positive effects of virtual peer-to-peer support. This was in part due to numerous studies’ methodological

problems, which included weak experimental designs, a lack of power and the confounding influences of co-occurring professional interventions.

One possible explanation for the findings of low levels of participation in self-help/mutual aid may be found in the phenomenon of online lurking. “Lurkers”, “lurking” and “social loafing” are popular terms that have been used to describe the most common characteristics of online participation. Nielsen (1997) reported that the vast majority of internet users do not interact but participate only to observe others interacting. Termed the “90-9-1 Rule”, only one percent of users were found to be daily or heavy users, while 9% were infrequent users. The largest segment, 90 percent of site users, did not interact. Farvolden and Mierlo’s (2003) online-only anxiety management program, Steed’s (2005) online-only family life education program and Taylor et al.’s (2010) hybrid PMT study, all show interactivity rates that would appear to conform to the 90-9-1 Rule, as low levels of interactive participation were the norm for their voluntary, peer-to-peer, mutual support and discussion groups.

Mierlo (2014) researched the authenticity of the 90-9-1 Rule for moderated self-help/mutual aid discussion forum participation in four web-based intervention programs that were free to users: the Alcohol Help Center, the Depression Center, the Panic Center and the Stop Smoking Center. The 90-9-1 Rule was used to categorize participants as “Superusers”, “Contributors” and “Lurkers”. The study tracked a combined participation of 63,990 participants with a total of 578,340 posts. The duration of study participation varied between the four sites with the smoking cessation site duration being the longest (2001-2012) and the problem drinking site duration being the shortest (2001-2012). The

study findings confirmed the 90-9-1 Rule across all 4 sites with 90% of the combined site participants accounting for a weighted average of 1.3% of all posts.

### **Propositions about Online Participation**

Although the term “lurkers”, as portrayed by the 90-9-1 Rule may accurately portray some features of this largest segment of participatory behavior (e.g. intensity of interest and a desire for total anonymity), it carries a moralistic and pejorative tone. This tone may deter recognition of the functional motivation for “lurking” behavior. In the case of participants who seek assistance, it can be assumed that their primary goal is to understand and seek control over some form of distress. Further, based on this assumption and the internet’s capacity for information processing, storage and rapid retrieval, it is asserted that achieving this goal through voluntary peer-to-peer, mutual aid and discussion forums does not necessarily require interactive participation. Self-Efficacy Theory (Bandura, 1997) maps a number of pathways for asserting control. The pathway of “vicarious experiencing” (p. 86) explains the mechanism through which participants achieve control through observation and discovery of a diverse set of successful peers or models that are successfully confronting similar experiences. This pathway does not require the participant to interact with other participants to achieve their goal of control, only to observe similar models.

Self-efficacy or “the exercise of control” is defined by Bandura (1997, p.7) as beliefs about one’s personal resources for engaging in behavior to produce desired goals. Bandura identified four mechanisms of self-appraisal for self-efficacy. These include: (1) enactive mastery experience, (2) vicarious experience, (3) verbal persuasion and (4) physiological and affective states. Mastery attainment is the most direct and influential



source of self-appraisal. Vicarious experience refers to the process of self-appraisal based on comparisons with successful peer models. Verbal persuasion includes self-appraisal based on the influence and support of valued others. Physiological and affective states concerns self-appraisals of physical and emotional stamina that can be attained with effective stress management and physical conditioning.

When considering these sources of self-efficacy, the internet is a particularly effective tool for achieving vicarious experience because of its enormous capacity for information storage and rapid retrieval. Users can rapidly scan and obtain numerous, successful peer models for self-appraisal. These can be either mastery or coping models, however when a person lacks confidence, according to Bandura (1997) peer model similarity is of greater importance to an observer. “Coping-modeling” (p. 99) is the term Bandura used to describe the vicarious experiencing of control through observation of similar peer models. Coping models as opposed to mastery models make mistakes, confront setbacks but through effort and persistence eventually succeed.

With voluntary, peer-to-peer, self-help/mutual aid discussion boards, it is proposed that “lurking” predominates, because this form of participatory behavior allows users to efficiently and rapidly observe a diverse set of peer models for the purposes of coping-modeling to increase self-appraisal of control. The phenomena of lurking may also serve to avoid self-stigma and negative self-efficacy appraisals that could occur through interactive participation.

Corrigan (2004) conceptualized two kinds of stigma that are linked with mental health difficulties, public and self-stigma. Both types deter individuals from seeking treatment. Public stigma carries negative labels that individuals wish to avoid, however

in the case of self-help/mutual aid discussions, self-stigma may be the greater deterrent, as it infers low self-esteem and negative self-efficacy appraisals.

### **Self-efficacy and skill disparity**

If lurking occurs in the service of self-efficacy appraisals, as proposed here, it may be seen to follow andragogical principles that have been identified as important for adult learning (Knowles, 1984). These principles make three working assumptions about the nature of adult learners: (1) a preference for self-directed learning, (2) a readiness to learn and (3) internal motivations (e.g. increasing self-efficacy). In addition, adult learners are assumed to prefer instruction that is: (1) problem-centered rather than subject-centered and (2) uses adults' life experiences as a resource. Lurking can be seen to be a self-directed activity that is problem-centered and internally motivated. Based on the lurker's life history and a desire to increase control over a problem and perhaps avoid self-stigma, lurkers search for similar peer models that have successfully handled problems similar to those that they face.

However, lurking's effectiveness for increasing self-efficacy to gain control over a problem, does not imply that increasing self-efficacy predicts successful outcomes. Eysenback et al.'s (2004) systematic review of mutual aid virtual communities and electronic support groups failed to find evidence of positive effects for participants. Similarly, Bandura (1997) discussed the limitations of self-efficacy appraisals on proximal outcomes, based on the skills that are involved. If skills are available but misused, then self-efficacy appraisal may be expected to correct misuse and increase proximal outcomes. However, without having the prerequisite skills, positive self-efficacy appraisal would only lead to more failure.

If a person lacks prerequisite skills for achieving their goals, then self-efficacy appraisals would be better directed towards enhancing attributions about effort needed to build necessary skills. Attributions about effort would then attribute failure to a need for greater effort and persistence, rather than a lack of ability. Therefore, instructional design must integrate self-efficacy appraisals of effort with skill- building. As earlier suggested, this requires a different instructional design than currently used in online interventions that target large groups of anonymous users, where individual learning is complemented with voluntary peer-to-peer support groups. A design that integrates individual and group-based learning must also create a social context that develops coping perspectives toward skill-building. One such model is problem-based learning (PBL).

### **Problem-based learning**

Problem-based learning reflects the principles of andragogy. It is a problem-centered approach that can be used by self-directed learners. “The basic principle supporting the concept of PBL is older than formal education itself; namely, learning is initiated by a posed problem, query or puzzle that the learner wants to solve” (Duch, Groh, & Allen, 2001, p. 6). An example of an effective problem-based learning design in formal adult education can be found in the field of medical education in the “McMaster philosophy”. “This PBL method was adapted for use in the area of intervention for a group-based, face-to-face PMT intervention program that was developed out of McMaster University Faculty of Health Sciences (Cunningham, Bremner, & Secord, 1998).

Community Parent Education (COPE) is an example of a PMT program that uses the PBL model (Cunningham et al., 1998). COPE’s instructional design also applies

Bandura's (1997) self-efficacy theory of coping-modeling. In this design, small groups of participants view video vignettes of parenting challenges. The groups are asked attributional questions that are designed to stimulate group-based self-efficacy appraisals that enhance effort and persistence. These appraisals are then integrated through what they term "the coping-modeling approach" with skill-building presentations that included modeling and practice. Participation was unaffected by parent variables like depression or family variables like economic hardship, and disorganization (Cunningham, et al., 1993). Distal outcomes were demonstrated for increased child compliance and prosocial behavior (Cunningham et al., 1995). In another study of COPE, its group-based, collaborative problem-based learning model was compared to didactic instruction or mastery modeling (Cunningham et al., 1993). Although learning outcomes were similar for both groups, participatory outcomes were significantly greater for attendance, instructional adherence, cooperation and program satisfaction for the PBL program compared to the didactic instructional program.

### **Transformative Learning**

An important theoretical expansion to this model is the adult learning theory of Transformative Learning. Transformative Learning, a cognitive theory of adult learning that includes elements of both psychotherapy and critical theory, (Elias & Merriam, 1995; Mezirow, 1991) holds that socialization experiences in childhood experiences produce outcomes for core beliefs about the self, others and the world. When these beliefs are maladaptive, they limit adult growth and development. So for instance, a mother who was socialized to believe that only fathers can be effective at regulation, would be expected to display inept parenting that is lax, especially if her child is temperamentally

challenging. Likewise, a father who was socialized to believe youth will only follow directions if coerced would be expected to display inept parenting that is over-reactive and harsh.

Mezirow (1995) described beliefs that determine behavior as “meaning perspectives” (p. 124). Achieving perspective transformation and taking action on new meaning perspectives are goals of transformative adult education. Applying the concept of transformative learning to an online adult learning and intervention program means program evaluation must also consider outcomes from the perspective of the learner’s experiences. First and Way’s (1995) phenomenological study of a face-to-face parent - education group discovered that in addition to skills-based outcomes, perspective transformation occurred for some parents. When parents became more self-directed and critically examined maladaptive meaning perspectives, they made life changes that also benefited their youth. The impact of critical thinking was described as “fundamental to these parents’ perspective transformation. Others have also described critical thinking as an important contributor to perspective transformation (King, 2009).

King (2009) developed a Learning Activities Survey for the purposes of helping adult educators determine whether their learning activities contribute to a perspective transformation for learners. Over a decade of mixed methods research with her Learning Activities Survey and follow-up interviews suggested that in formal adult education, over one-third of learners experienced a perspective transformation. She found the learning activity that was central to perspective transformation was critical reflective thinking. For the research under consideration, if PBL can integrate individual and group-based learning within a social context that encourages critical reflective thinking and problem-

solving, it may contribute to perspective transformation, thus broadening the domain of its outcomes.

### **Integrated Model for Adult Learning and Intervention**

In contrast to public health's online psychoeducational and psychosocial prevention programs where large numbers of anonymous users participate, online adult education's more formalized instructional programs are typically delivered to smaller numbers of participants. Consequently, a greater variety of interactive designs have been developed to increase social context and social factors for the purposes of reducing learner isolation and program dropout. These have included the development of numerous collaborative online learning models that involve group work. Collaborative Group Work is an umbrella term that includes group-based learning program designs like case-based learning (Choi, Lee, & Jung, 2008), consensus groups (Smith & Dirkx, 2007), problem-based learning (Oliver & Omari, 1999) and project-based learning (Chang, 2008). Group learning approaches have been found to be successful for increasing participant retention, participation and learning outcomes. In part because these approaches create a social context for engagement that supports social factors involved in learner effectiveness.

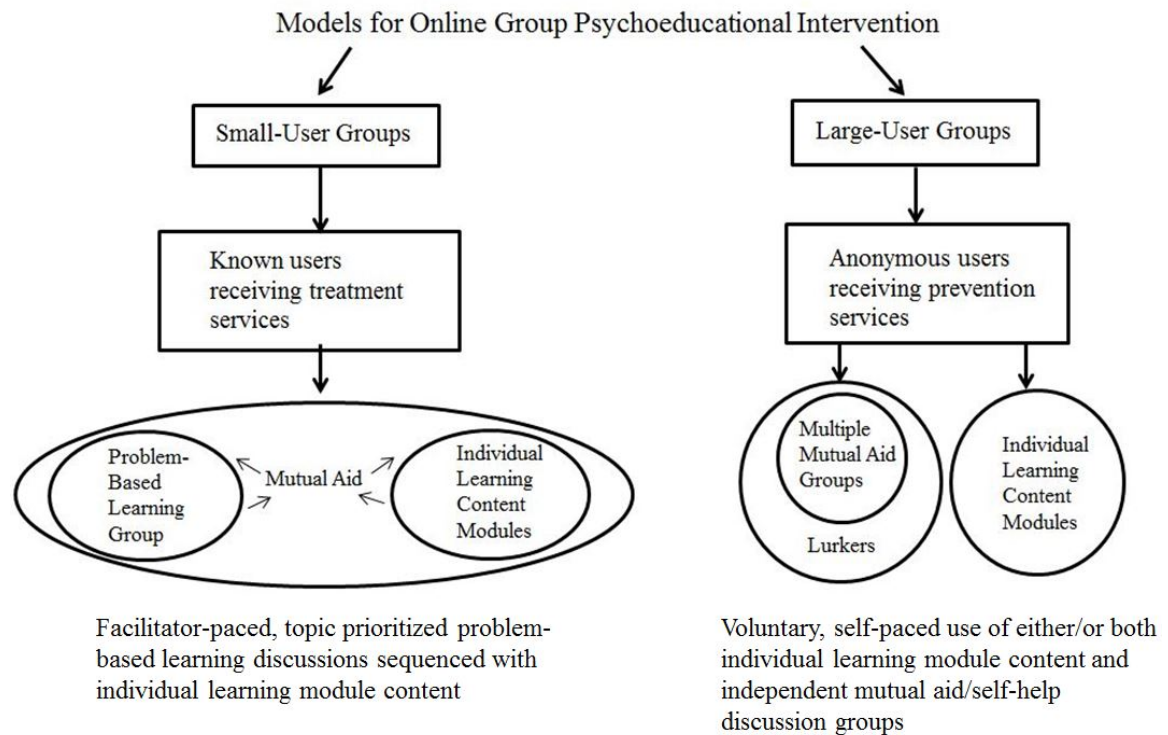
**Assumptions about group learning and self-help/mutual aid discussion forums.** Creating a social context for instruction through collaborative group learning has been shown to increase learning effectiveness within online adult education (Angeleno et al., 2007; Jun, 2005; Poellhuber et al., 2008). This research evaluated the assumption that integrating a collaborative group learning component within an online adult psychoeducational program can enhance participation, retention and intervention

outcomes. The voluntary, peer-to-peer, self-help/mutual support discussion boards that have been discussed are designed as adjunctive to individualized models of learning. Although their purpose may be to create social context through interaction, these are not based on group learning paradigms found in formal adult education. Even when moderated by a professional, the voluntary discussion groups do not appear to uniformly enhance program participation or retention.

To enhance participation and outcomes, the following assumptions are made about the integration of social context for online intervention programs within a design for small groups of participants using discussion forums (see Figure 1):

1. Group learning models from the field of adult education can integrate individual and social features of learning effectiveness in online psychoeducational programs.
2. Integration through group learning models requires collaborative problem-solving, as opposed to voluntary, self-directed and self-paced participation.
3. Mutual aid may develop from collaborative problem-solving but is insufficient as the only method for integration of individual and social features of learning effectiveness.
4. Instead of voluntary, self-paced participation, asynchronous discussion boards require facilitator-paced participation using sequential problem-based learning assignments or projects to prioritize topic content for skills-based learning.

Figure 1. Comparison of Models for Online Psychoeducational Intervention



### Summary and Study Aims

Delivery of psychoeducational and psychosocial services through the internet or other networking technologies is an emerging field. Large-scale, public health, online prevention programs are now free and readily available with access requiring no more than email registration. Examples include Alcohol Help Center, Panic Center (Evolution Health Systems, 2014), E-couch and Moodgym (Centre for Mental Health Research at the Australian National University, 2014). Currently, two main models of learning effectiveness exist in online program intervention that has been discussed:

1. Individualized learning using self-paced content delivered via web programs



2. Individualized learning using self-paced content combined with the adjuvant social features of moderated or non-moderated voluntary, self-help/mutual aid discussion forums.

As program delivery, availability and acceptance of online delivery continues to grow, psychoeducational and psychosocial intervention programs that assist smaller numbers of known users can be expected to emerge in response to gaps in accessibility and availability of face-to-face services. Although variation in the use of technology with online interventions already occurs (e.g. hybrid models that combine face-to-face and online intervention), based on the theory and research outlined in this literature review, the primary method of supporting the social features of participation and learning in online-only programs has been with voluntary, self-help/mutual aid discussion forums. This review questioned their effectiveness, based on propositions about the activity of “lurking” as an online mode of observational learning. A limitation of this type of learning based on Bandura’s (1997) research suggests that while self-efficacy appraisal comparison with peers may increase coping-modeling, without requisite skills, hoped for outcomes may be predestined to failure. To respond to this limitation, several assumptions were made to better integrate individual and social factors in psychoeducational training, particularly with small group intervention.

This research addressed these assumptions by investigating a small-user group model for delivery of an online psychoeducational and psychosocial intervention for PMT. The program was designed to integrate skills-based individual instruction enhanced with collaborative group-work to support both individual and social factors of learning effectiveness. Although the program used a discussion forum, instead of being

designed for voluntary self-paced delivery of mutual aid, it was designed for facilitator-paced, problem-based learning. In so doing, topic content was prioritized and sequentially delivered to enhance integration with web-based individualized learning. The integration of individual web-based instruction with a PBL discussion forum was considered to be important for supporting critical thinking, interactive learning and coping, as well as mutual aid processes like instillation of hope (Yalom & Leszcz, 2005).

To research this intervention model for small-user groups the following aims, hypotheses and exploratory questions were developed within an intervention mixed methods research design (Creswell, 2014). In this study, the quantitative data included the psychosocial intervention's pre-post surveys and the qualitative data consisted of participant discussion posts and responses to open-ended questions to a learning-activity survey collected six weeks post-intervention.

**Specific aim 1.** Numerous outcome variables have been studied by PMT researchers, including both proximal parent outcomes and distal child outcomes. Because of the pilot nature of this study, two proximal outcomes were chosen as they represent core variables for which PMT has been found to achieve medium effects (Lundahl et al., 2005): 1) parenting self-efficacy and 2) parenting style.

Cowan & Cowan, (2002) described four parenting styles based on admixtures of nurturance and control: (1) authoritative, (2) authoritarian, (3) permissive and (4) disengaged. Of the four subtypes, many studies had found authoritative parenting inhibited the development of social problems like dropout, violence and alcohol, tobacco and other drug use by youth (Forgatch & Martinez, 1999; Kumpfer, 1999; Spoth et al., 2002). Similarly, Jacobs et al., (2000) summarized the most effective parenting style

admixture found by many studies was high levels of nurturance and moderate levels of control. Parenting self-efficacy and parenting style variables were used to address the question: How does the program affect parenting outcomes?

Hypothesis 1: It is hypothesized that training will increase parenting self-efficacy.

Hypothesis 2: It is hypothesized the training will reduce inept parenting behaviors that include over-reactive and lax parenting behaviors.

**Specific aim 2.** Because participation in both moderated and non-moderated self-help/mutual aid discussion forums has been seen to conform to the 90-9-1 Rule, the characteristics of participation that contribute to learning effectiveness are unclear in the literature of online psychoeducational intervention. The design model being researched with small-user groups integrates individual and social features of learning effectiveness. It will explore how participation contributes to participant outcomes:

Exploratory Question: Are there characteristics of discussion forum participation that differentiate participants that increase parenting self-efficacy and reduce authoritarian and permissive parenting behaviors from those participants that do not increase parenting self-efficacy or reduce inept parenting behaviors?

## CHAPTER 3: METHODS

### **Research Design**

This research used an intervention mixed methods design (Creswell, 2014) to explore the learning effectiveness of a pilot psychoeducational program, based on parent management training that integrated individual learning through web-based modules with social features of learning through a small-user group discussion forum. Unlike current models of online psychoeducational intervention that were discussed in the literature review, the intervention program was designed to apply instructor facilitated, problem-based learning within the asynchronous discussion forum, in part to increase engagement and to control for lurking behavior that can potentially lower participation.

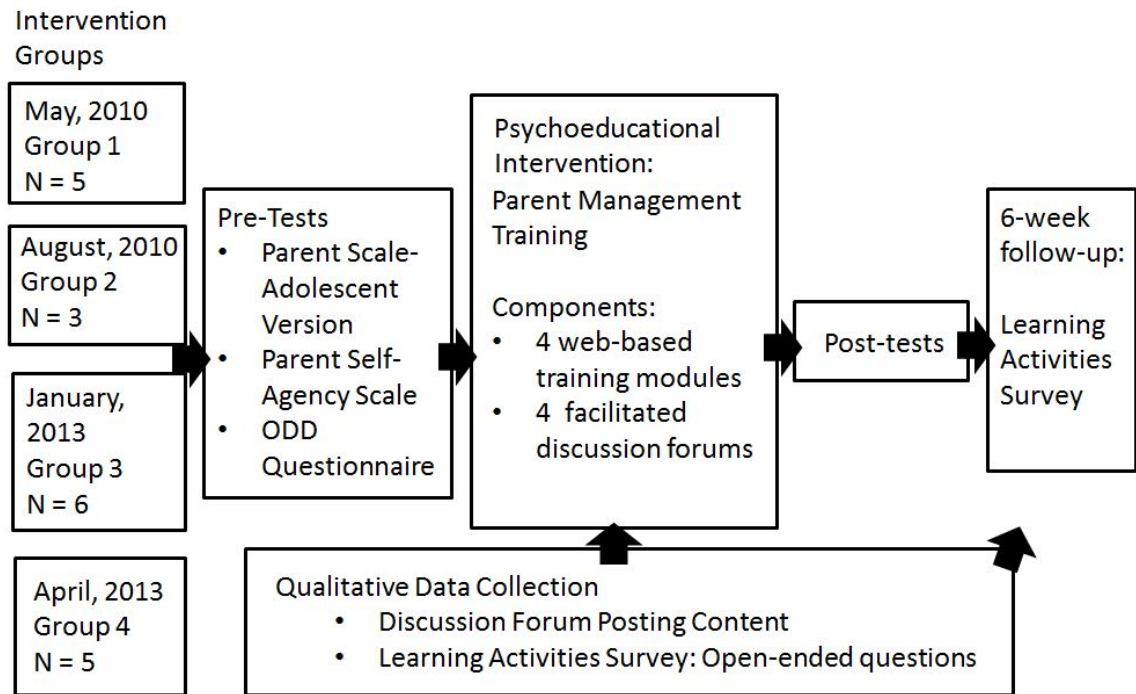
The instructional design and development of the pilot program model was the creation of the researcher, who performed all aspects of program implementation including the facilitation of the small group-based discussion forums. The pilot design included four web-based learning modules and four discussion forums that were presented in tandem with the learning modules. The program was delivered sequentially to a total of nineteen participants within four small user-groups. The program duration for each of the four groups was six weeks. The recruitment of participants occurred through purposeful sampling and this occurred in two phases, with the first two small user-groups consisting of caretakers seeking assistance through an employee assistance program and the final two user-groups consisting of caretakers that were recruited through community flyers and advertisement.

The mixed method intervention design included a concurrent parallel design, as quantitative and qualitative data were collected simultaneously during the intervention (Bornstein & Kovacs, 2013; Creswell, 2003). A mixed methods intervention design necessarily goes beyond the three basic mixed method designs: concurrent, explanatory sequential and exploratory sequential, because of the added presence of an experiment or intervention trial, as in the case of this research (Creswell, 2014). Qualitative data was added in this design during the intervention and at six-weeks post-intervention.

The overall rationale for the collection of qualitative data from participants during the intervention was to observe posting content for the purposes of comparing any differences between group participants, based on their pre- and post-test data performance outcomes. More specifically, if discussion forum participation does confer advantages for learning effectiveness, what are the characteristics of discussion that may be important? This is an important question to address as assumptions in the literature about the need to cross large subscriber thresholds to achieve participation, as well as research on the pervasiveness of the 90-9-1 Rule can potentially inhibit the use of discussion forums in online psychoeducational interventions, especially those involving small-user groups.

The overall rationale for the collection of qualitative data on learning effectiveness at six weeks post-intervention was to further explain the pre- post-test outcomes, as well as any relevant differences that were observed in participant discussion post data. In Figure 2, a procedural diagram illustrates the flow of the research design and data collection procedures.

Figure 2: Procedural Diagram for a Mixed Methods Intervention Design with a Parent Management Training Psychoeducational Intervention



## Participants

Study participants were caretakers of youth between the ages of 10 to 16 years of age. Nineteen participants were recruited between 2010 and 2013. Eight of these were recruited in 2010 and were members of an employee assistance program (EAP) that provided mental health services. Services received through an EAP are employee benefits that typically consist of free, short-term interventions for personal, family or workplace problems. An overall purpose of EAP services is to reduce stressors that can interfere with work performance. If an EAP intervention is insufficient, employees can be referred to a provider in their health insurance plan for more intensive services.

After 2010, recruitment through the EAP was no longer available. New sources for recruitment were pursued through a number of mental health providers. While the research program was of interest to some who were contacted, new recruitment solutions failed to emerge. This could have occurred due to numerous factors, including the non-traditional nature of program delivery, as well as the demands recruitment would have made on providers' more urgent practice-base concerns.

In 2012, the recruitment strategy shifted from efforts to enlist mental health providers and the final eleven participants were recruited through three different strategies: 1) fliers that were posted at a child and adolescent psychiatry clinic, 2) fliers posted at three adolescent medicine clinics and 2) advertisement through a university community newsletter.

### **Recruitment Procedures**

The recruitment procedure for this study was approved by the Indiana University Purdue University Indianapolis (IUPUI) Institutional Review Board. The initial eight participants, who were recruited through their EAP learned about the psychoeducational intervention program, when they contacted their EAP to seek services for their child's behavioral problems of noncompliance at home. Callers were informed of the availability of the online program by a call center scheduler through the use of a brief script. The script included information about technology requirements for either a digital subscriber line (DSL) or a broadband cable connection. Those interested, provided an email or telephone for the researcher to contact them. When contacted, inclusionary and exclusionary criteria were screened and any questions about the research were answered.

The final eleven participants, who learned of the program through fliers and advertisements, were informed that the program was for parents of challenging youth. Individuals interested in participating, contacted the researcher by telephone or email. Once again, inclusionary and exclusionary criterion was screened and any questions about the research were answered.

Payment was made to participants who completed the program in 2013 in the form of a bonus of \$40.00 cash for completion of the 6-week program and a payment of \$10.00 cash for completion of a follow-up survey of their assessment of program learning activities, which was emailed six weeks following program completion. Payment was not deemed coercive by the institutional review board, based on the amount of time required for active participation and the fact that participants were using their own computers and paying their own web-hosting fees.

**Informed consent.** In both 2010 and 2013, individuals having been screened and those agreeing to participate were emailed the URL for an orientation module at the online intervention's website, where they viewed a written statement regarding the research for the purposes of obtaining their informed consent. They were informed that the intervention did not require their child or teen's participation and that they could withdraw at any time without penalty. In the orientation module, they learned participation would include both an individual web-based multimedia training component and a facilitated, online, asynchronous, group discussion forum component.

After they viewed an orientation module, those that chose to continue followed a link to complete questions containing demographic background data (see Appendix B) and the study's pre-tests (see Appendices C-E). A password was emailed following



receipt of the survey data, so that participants could access the first program module. All web-based learning modules were password-protected, so that the topics discussed in the online discussion forum could be sequentially-paced by the forum facilitator. Also, while participating in the group portion of the online program, users selected an anonymous user-name to maintain their confidentiality. The online discussion forum included security functions that blocked spam and offensive words. A participant from the fourth of the four intervention groups made the following observations about confidentiality and group participation, “It was easy [group participation] because you could post to a forum confidentially. Your personal conflicts with your child [were anonymous] to the point where no one else knew you personally.”

**Purposeful sampling criteria for participation.** Participants were purposefully sampled for the research through the use of the following inclusionary and exclusionary criteria (See Appendix A):

- Participants agreed to give their informed consent to participate in this research
- Participants were a parent or caretaker of child between ages 10 to 16;
- Participants wished to obtain help for their child’s behavioral problems of noncompliance;
- Participants were not receiving any other parent management training;
- Participants had a working email address;
- Participants could comprehend, read, and write in the English language;

- Participants had ready access to the Internet through either a DSL or broadband connection (required due to bandwidth demands of multimedia presentations).

Exclusionary criteria included the following conditions:

- Individuals who were seeking help for a child that demonstrated risk for harm to themselves or others;
- Individuals who that were seeking help for a child that demonstrated active substance abuse;
- Individuals who were seeking help to comply with a court order, e.g. custody modification.

## **Measures and Instruments**

**Background.** The following background data was collected at pre-intervention:

- (1) Participant data: age, gender, ethnicity, educational status, marital status, parenting status (single or co-parent), sources of parenting support, satisfaction rating regarding parenting support and involvement, employment status and amount of time at home with child.
- (2) Child data: age(s), gender, grade in school and achievement status (passing or failing).
- (3) Problem data: reason for seeking help, duration of problem, history of previous counseling or other service delivery for the problem.

**Quantitative data collection.** Three questionnaires were used to collect pre-and post-test data. These included the Parenting Scale – Adolescent Version (PSA) (Irvine,

Biglan, Smolkowski, & Ary, 1999a), the Parenting Self Agency Measure (PSAM) (Dumka, Stoerzinger, Jackson, & Roosa, 1996) and the Evidence-Based Questions for Assessing Likelihood of Meeting DSM-IV Criteria for Oppositional Defiant Disorder (ODD) (Angold & Costello, 1996). The Learning Activity Survey (LAS) (King, 1999) was used to collect data at six weeks post-intervention, regarding learning activities.

**Qualitative data collection.** Group discussion posts were used to obtain content about the characteristics of posting participation. Discussion forums were built and managed through Simple Machines (2013) an open source program that provided password-protected, asynchronous discussions forums. The LAS (King, 1999) was used to obtain open-ended responses to participant experiences with the program at six weeks post-intervention.

### **Pre- Post-Testing Instruments**

#### **Parenting Scale – Adolescent Version (PSA)**

The overall goal of the PSA (Irvine et al., 1999a) is to measure parent discipline practices. It includes two subscales that measure two major constructs that have been demonstrated to have extensive theoretical and empirical support as global measures of inept parenting (Dishion & Bullock, 2002; Gregory & Weinstein, 2004; Irvine, et al., 1999b; Shaw & Bell, 1993): (1) harsh or over- reactive/coercive parenting and (2) lax or inconsistent/permissive parenting.

The scale contains thirteen items. Each of the thirteen items identifies an example of child noncompliance, along with a range of parent responses. Rating is done with a Likert scale with a range from 1 to 7. For each item, the ends of the scale are anchored with bipolar descriptions of possible parenting responses. For example, the situation

“When my child misbehaves...” is anchored with the statement “I handle it without getting upset” at one end and “I get so frustrated and angry that my child can see I’m upset” at the other end. The range of possible scores is 13 to 91. Higher scores indicate greater disturbances in parenting behaviors.

The PSA includes 2 subscales, the laxness subscale (LAX) and the over-reactivity subscale (OVER). Composite LAX and OVER variables were computed for this study by summing each of their six items to produce a single laxness and a single over-reactivity score. Higher summed scores indicate greater disturbances for LAX and OVER behaviors. The range of possible scores for each of the two subscales LAX and OVER is from 6 to 42. In addition to the two subscales, OVER and LAX, the PSA also contains one item that asks about “Monitoring”. The range of possible scores for that one item is from 1 to 7.

The internal consistency and test-retest reliabilities of the measure were evaluated with an experimental study that used wait-list controls to research PMT outcomes for 298 predominately lower-income parents of middle-school youth (Irvine, et al., 1999a). Youth were selected from a group that was determined to display more than three risk factors for negative outcomes (e.g., academic problems, deviant peer group association, and antisocial behaviors, among others). Cronbach’s alphas’ at pre-and post-test for the total scale were 0.83 and 0.86 respectively. For Over-reactivity and Laxness pre- and post-test alpha’s were 0.82.

For this study, both the OVER and LAX pre- and post-tests demonstrated moderate to high levels of internal consistency. The OVER was calculated to have a pre-

test alpha of 0.71 and a post-test alpha of 0.69. The LAX was calculated to have a pre-test alpha of 0.85 and a post-test alpha of 0.89.

The construct validity of the scale was obtained through testing with several adult-level, parenting-level and child-level measures of functioning (Irvine, et al., 1999a). Significant adult and parent-level relationships with over-reactivity variable included greater parental depression, fewer positive feelings about the child, fewer family activities and greater dissatisfaction with problem-solving efforts. Significant child-level relationships included poorer overall adjustment, greater antisocial behavior, as well as clinically significant levels of aggression, increased attention problems, symptoms for combined anxiety and depression, greater social problems, greater thought problems and more withdrawn behavior. The laxness variable had significant relationships with higher parental depression, fewer family activities, and fewer positive feelings about the child, in addition to greater dissatisfaction with problem-solving efforts, greater child antisocial behavior and more child aggression.

### **Parenting Self-Agency Measure (SAM)**

Parenting self-agency/self-efficacy was measured with the Parenting Self Agency Measure (SAM) (Dumka, Stoerzinger, Jackson, & Roosa, 1996). Comparisons of self-agency and self-efficacy find significant conceptual overlap between both constructs (Coleman & Karraker, 2000) and self-agency has been used as a measure of self-efficacy in previous research (Whittaker & Cowley, 2006). Because of the similarity of the acronym PSAM to the Parenting Style, Adolescent Version (PSA), it has been shortened to SAM for all discussions that follow in this study.

The overall goal of SAM is to measure parents' confidence in their ability to manage their child's behavior. Questions also focus on attributions about coping and effort and the need to persist and increase effort when confronted by setbacks or failure. The following is an example of a coping question: "When things are going badly between my child and me, I keep trying until things begin to change".

The SAM measures domain-general formulations of parenting self-efficacy, as opposed to domain-specific formulations. Domain-specific parent self-efficacy measures are formulated around tasks, as example, "Helping my child with school work is very frustrating". Domain-general measures are global formulations of competency, as example, "I feel sure of myself as a mother". This domain-general measure was chosen for this study because scale items are more appropriate for parents of early adolescents, whereas many domain-specific task-based questions are more specific to children.

In initial development, this instrument was comprised of ten items, but was later reduced to five items based on confirmatory factor analysis and reliability coefficient measurement. Rating on both ten and five item versions is done with a Likert scale with a range from 1 to 7. An item example from the PSAM is "I know I am doing a good job as a mother/father".

SAM's reliability was reported for both Caucasian and Hispanic/Latino parents by the scale's developers. Dumka et al. (1996) found adequate reliabilities for both ethnic groups with a Cronbach's alpha for Caucasian mothers of 0.70 and for Hispanic/Latino mothers of 0.68. Construct validity was obtained through correlations with both coping strategies and parenting practices. Other researchers have used the scale and found adequate reliability and validity. Coleman and Karraker (2000) modified the scale from a

7-point to a 6-point scale and obtained a Cronbach's alpha of .81. Whittaker and Cowley (2006) compared the SAM to a domain-specific self-efficacy measure. They used the five-item modified SAM and obtained a Cronbach's alpha of 0.76. A factor analysis confirmed construct validity, while test-retest reliability was good. Overall, the domain-general SAM was judged to be more stable than domain-specific measures of parenting self-efficacy. For this study, pre- and post-tests demonstrated high levels of internal consistency with a pre-test alpha of 0.77 and a post-test alpha of 0.86.

The range of possible total scores for the SAM is from 5 to 35 with higher scores indicating greater parenting self-agency. A composite parenting self-agency variable was computed by summing 5-items to produce a single score.

### **Evidence-Based Questions for Assessing Likelihood of Meeting DSM-IV Criteria for Oppositional Defiant Disorder (ODD)**

The ODD questionnaire (Angold & Costello, 1996) used for this study was developed for a longitudinal study in which a final sample of 1,071 youths and their families were interviewed and completed several surveys that also measured epidemiological features, such as the rate of mental health diagnosis, impairment and types of intervention services. The questionnaire includes eight items that measure symptoms that predict the likelihood for a diagnosis of Oppositional Defiant Disorder. The eight items within the questionnaire are based on the symptom criteria found in the DSM-IV (American Psychiatric Association, 1994). The questionnaire was used for this study because oppositional defiant disorder is often treated with parent management training (Kazdin, 2005). Its symptoms are described in the DSM-IV as producing "a vicious cycle in which the parent and child bring out the worst in each other (p.92).

Whether a symptom item counts toward diagnostic likelihood is dependent upon both duration and frequency of occurrence of symptoms.

Duration is measured by two items measured at the nominal level and scored based on whether the item's symptoms have been present for more or less than 3 months. When an item is scored as a "yes, three or more months" it is counted as a symptom of likelihood for diagnosis of Oppositional Defiant Disorder. An example is "Has your child in the past three months been spiteful or vindictive, or blamed others for his or her own mistakes?" (Angold & Costello, 1996).

The remaining six items measure the frequency of occurrence of symptoms. Four of these items are scored as: 1) never, 2) one time weekly and 3) two or more times per week. When any of these four items is scored at "two or more times per week", it is counted as a symptom of diagnosis likelihood. The remaining two items are scored as: 1) never, 2) one time weekly, 3) two times weekly, 4) three times weekly and 5) four or more times weekly. When either of these items is scored at "four or more times weekly", it is counted as a symptom of diagnosis likelihood.

The six items measuring symptom frequency were combined with duration items to compute a composite ODD likelihood for diagnosis of Oppositional Defiant Disorder. A single likelihood of a diagnosis decision was produced for each youth, when at least one of the two duration items was scored as "yes", along with enough frequency items to produce a total of four or more symptoms. Symptom totals based on duration and frequency of items that met the full criterion for diagnostic likelihood was also calculated to produce a composite variable named DSM-IV/ODD. This variable provides a total symptom count of the eight items that meet diagnostic likelihood.



### **Six-Week Follow-Up**

Participant overall experience with the program was examined with the Learning Activities Survey (LAS) (King, 2009). The overall purpose of this survey is twofold (1) identify if a participant experienced a perspective transformation in their parenting values, beliefs, opinions or expectations and (2) identify the learning activities that were rated as having contributed to that transformation.

The survey contains four sections that include a total of 14 questions. The first section of the questionnaire consists of three questions that ask about stages of perspective transformation and if transformation occurred during the period of instruction. One of this section's three questions is multiple-choice, one is yes/no and one is open-ended. The second section of the questionnaire consists of three multiple-choice and one yes/no question. They identify if outside events, learning activities or both contributed to perspective transformation. The third section of the survey asks two multiple-choice questions about the learning activities that were participated in and two yes/no questions about whether the respondent is a reflective thinker. The final section of the survey asks about demographic data, so this section was not used in this study.

The LAS was developed for administration that is followed-up with a later interview. The interview is recommended to verify the survey accuracy for identifying the experience of perspective transformation and the events or learning activities that contributed to transformation. This study's use of the LAS deviated from King's design because no follow-up interviews were conducted. Instead, LAS data was triangulated with quantitative change scores and textual data from the professionally-facilitated, asynchronous group discussion board.

In addition, because the LAS was designed for delivery to a range of learners in varied instructional programs, some questions in the second and third parts of the survey were modified to reflect learning activities that are specific to this particular program. Questions #1, #2 and #3 from the first section of the survey and question #5 from the second section of the survey were not be modified for this study, because, these items ask for responses that are specific to stages of perspective transformation that were identified by Mezirow (1991).

Reliability for the instrument was not confirmed with test/retest because King (2009) stated that perspective transformation can be ongoing in response to changing life circumstances. Therefore, consistency was addressed with a series of studies that replicated the use of unmodified questions #1, #2, #3 and #5 for identifying perspective transformation. The instrument's credibility was established through a review by a panel of senior investigators from the field of transformative learning. The final survey was then constructed through an iterative process of modification and review. For the current research, modifications were made for sections two and three, in which learning activities were identified. Section four which contains demographic data was omitted, as demographic data was collected before participants begin the PMT program that was researched. The modified version of the survey is in the Appendix F

### **Group Discussion Posts**

Professionally-facilitated, asynchronous, group-based discussions were sequentially-paced following the presentation of web-based content and multimedia demonstrations, within each of the intervention's four learning modules, so that a discussion forum followed each of the four modules. Following the second module, the

remaining three discussion forums were introduced with a brief video vignette of a parent being confronted with challenging youth behaviors. Attributional questions developed from face-to-face group discussion in the Community Parent Education (COPE) PMT programs (Cunningham, et al., 1998) were then used to structure discussion for problem-based learning. So for example, following a video presentation of a parent displaying inept responses to a parenting challenge, participants were asked to respond to an attributional question about the long-term outcome, if the parent continued to respond in the future with the inept behaviors illustrated in the video vignette. They were then asked to develop solutions, based on this discussion. By using this tandem display of web-based content followed by problem-based discussion, textual data from participant forum posts could display how the participants applied the web-based content.

### **Psychoeducational Intervention Program Description**

The online psychoeducational intervention used in this study was titled “Parent Trouble Zone Training” and was designed, developed and modified by this researcher over several years. Initial development began with the conceptualization and development of a logic model for an online parent management training program that would be administered as a part of a home-school collaboration project (Ouellette & Wilkerson, 2008). The program that was later developed was based on behavioral parent management training principles and included four web-based modules and four asynchronous discussion forums that were built with several software systems including Adobe Dreamweaver (Adobe Dreamweaver, n.d.) for program webpages, Articulate Storyline (Articulate, 2014) for multimedia presentations within the webpages and Simple Machines (Simple Machines, 2013) for the program’s discussion forums.

The intervention's web-based training modules included content that was structured around four general themes: (1) "orientation", (2) "parenting styles", (3) "avoiding responsibility" and (4) "noncompliance". Each module provided a learning environment that met several of Conceicao and Lehman's (2013) methods for achieving persistence and retention in online learning. These included a consistent appearance and navigation across all webpages. Each module included an overview of its objectives, several pages of interactive notes and a summary and directions for further actions, like joining in with other participants in the module's discussion forum.

Module design and content presentation followed a combined linear and branching navigation process. Branching navigation was used to shift users from a passive position of simply reading topic content to an active position of making choices about topic content they wished to explore. This strategy allowed the participant-user to make choices and decisions to acquire additional information from the training content through a discovery process. This process minimizes the role of learners as passive recipients of information and content. In this way the instructional and graphic design used in the program went beyond giving information and facts.

Because the online intervention program was performance-based and focused on how the learner thought and acted, the presentation of the materials were designed to create an environment where the learner could process the information and place it in the appropriate context with their own child and in their own home. To facilitate this process of applying behavior management principles, reading materials were kept to a minimum.

In their place, interactive web-based multimedia presentations were created and embedded within each module. The web-based presentations include interactive

simulations, video demonstrations, and exploratory activities that were designed for learners to critically reflect on the information and to apply it to the nuances of real life. Within the interactive notes pages, multimedia presentations allowed participants to interact with various photographic characters that presented content in flash-based presentations. The characters provided feedback on learning with brief embedded questions. In addition, participants could experience greater personalization, when they were cued to type their first names at the start of many of the presentations. As participants interacted, photographic characters provided responses that included the participant name that was entered.

The training content in the web-based training modules was primarily based on Operant Conditioning Theory and social learning principles. Multimedia presentations were used to chunk content into learning objects within modules to demonstrate principles and strategies. Self-assessment exercises were used to allow participants to receive feedback and evaluate their understanding of the training concepts.

### **Facilitation**

After each training module, participants were directed to participate in an online PBL group discussion. A drawback to participation in asynchronous discussion forums is that participants may not receive feedback from peers in a timely or predictable manner. Therefore, steps used to facilitate participation in the discussion forums were developed throughout the intervention, based on number and quality of participant posting and responses in each of the four intervention groups. For instance, although each training module concluded with notice to begin the group discussion forum, participants received email notification, which could include multiple reminders of the

start date for each training module's discussion group. Later, it was determined URL links to the forums should be included in email notification to make navigation more convenient. Participants also received individual emails thanking them for their participation, identifying new content that they could react to, as well as notification when other participants reacted to their posts.

Another important aspect of facilitation was the sequencing of topic presentation in both web-based modules and in the asynchronous discussion boards. This sequencing aspect was critical to the facilitation of problem-based learning for the purposes of achieving active participant collaboration throughout the program. This is in contrast to the current large group models of online psychoeducation that allow for voluntary, self-paced participation. An advantage of the large group model is that multiple discussion topics can be deployed and users can participate based on interest. However, a major limitation for this method has been its low levels of participation, due to the predominance of lurking behaviors Mierlo (2014) or the failure to achieve a subscriber threshold needed to encourage interactivity (Taylor et al., 2010).

## Module One

Screenshot 1. Screenshot of Orientation Page



**Orientation.** Participants began the program with an online orientation module. The orientation module was brief and its purpose was twofold. It engaged participants for the purposes of enrollment. At the conclusion of the module, interested participants completed the online informed consent, responded to inclusion and exclusion criteria, provided demographic information and then completed the study pretest instruments before beginning the training modules.

Participants who viewed the Orientation Module learned about the content within the overall program. Content was presented through a conversation between a virtual

program facilitator and a virtual couple that were shown to be seeking assistance for their eleven year-old daughter that was defiant and hard for them to manage. Brief audiovisual presentations described three benefits of the program. The participant-user was engaged in the presentation by actively making choices and decisions to acquire more information about the program. These included the following titles and descriptions:

- “You are not alone”: Describes the online small group discussion format that is professionally facilitated for the purposes of problem-solving.
- “It’s effective”: Describes the program content to be based on PMT and the evidence-base for this training. Describes the small group discussion to be based on PBL.
- “It’s practical”: Describes the program’s asynchronous format, the availability with DSL or cable connection, the four – six week structure and the use of video demonstrations.

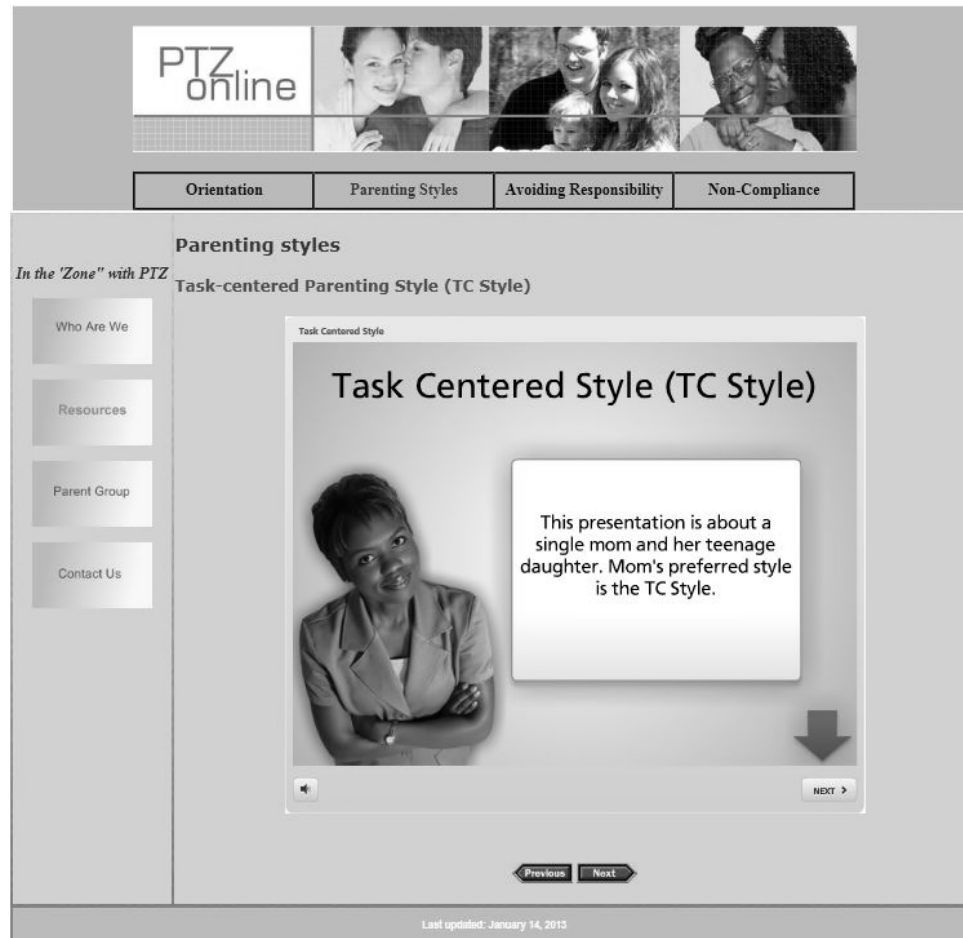
Following the description of overall program format and content, a further discussion between the parent and facilitator included a brief audio-visual presentation where the user-participant made choices to acquire additional information. This information included the following:

- “Modify behavior”: Describes the goals of operant conditioning.
- “Communication skills”: Describes the use of communication skills for handling conflict and improving relationships.
- “Mutual support”: Provides further information about the program’s discussion forum and the opportunity to interact with other parents, who could be experiencing similar concerns.



## Module Two

Screenshot 2. Screenshot of Branching Navigation Page from Module 2



**“Parenting Styles”.** This module introduced parents to the concept of authoritative parenting (termed “balanced parenting” in the program). It is compared with over-reactive parenting (termed “task-based” in the program) and lax parenting (termed “relationship-focused” in the program). Video vignettes were used to illustrate all three styles. Videos demonstrated parent-child communication in each style and how it influences the affective tone of the parent-child relationship, the management of conflict and the ability to problem solve. The individual learning component was

followed by a PBL discussion group which was led by the researcher. The learning objectives for this module included the following:

- (1) At the end of this module parents will be able to identify their preferred parenting style.
- (2) Parents who indicated a preferred style for either “Task-based” or “Relationship-focused” parenting will be able to identify weaknesses associated with these styles, as well as the strengths of the “Balanced” parenting style.
- (3) Parents will differentiate helpful ways of prompting behavior from unhelpful ways.
- (4) Parents will introduce themselves in the PBL discussion group
- (5) Parents will state their behavioral goals for using the program in the PBL discussion group
- (6) Parents will be asked to respond to an attributional discussion question and react to opinions of at least two other parents.

The learning strategies for this module included the following:

- (1) Parenting self-assessment tool: “What’s your style?”
- (2) Quizzes for self-assessment of learning: “Signal/Noise”, “Complaints and Criticisms”
- (3) Use of flash-based multimedia presentations and video vignettes that minimize reading and illustrate parenting style concepts through user interaction with characters that issue call-outs for response and discovery.

**PBL discussion group.** Once participants completed the training module on parenting styles, they were directed to participate to an asynchronous problem-solving discussion group. The problem-based discussion method used an attributional questioning approach that was developed for face-to-face group discussion in the Community Parent Education (COPE) program for PMT (Cunningham, et al., 1998). The discussion group was located on a secure server. It showed the same program header and graphics and contained four topic headings for discussion:

- (1) Topic #1: Introductions and Instructions: How To Use This Discussion Group
- (2) Topic #2: Module Two: “Parenting Styles” Discussion Group
- (3) Topic #3: Module Three “Avoiding Responsibility” Discussion Group
- (4) Topic #4: Module Four: “Stubborn Noncompliance” Discussion Group

The first two discussion forum topics were viewed by participants after completing the first two training modules, “Orientation” and “Parenting Styles”.

1. Topic #1: Introductions and Instructions. Participants were asked to introduce themselves. Participants were also asked to describe their reasons for participating and some behavioral goals for working with the program. They were given examples for how to do each of the above. The instructions were as follow:

- a. **Step One:** Please introduce yourself to the group. For your introduction write a short description about yourself, your child and the problems you are experiencing. A few short sentences are fine and of course do not include any personally identifying information. An example of how to do this is in the “Orientation” you viewed before

beginning the program. Frank said, “we have an 11 year old daughter...she won’t listen, she’s disrespectful and frankly we don’t know what to do.”

- b. Step Two: Please tell us about how you intend to use the program. For example, in the last module: “Parenting Styles” you discovered your preferred style. If you’d like it to change, please rate “how much”, on a scale of 1 to 10 with 10 being the most change. Also please rate how frequently you think you should log-in to the individual and group parts of PTZ to reach your goal.
    - c. Step Three: After you complete your introduction please go to the discussion group topic heading: Module Two: “Parenting Styles” Discussion Group.
2. Topic #2: Parenting Styles PBL discussion. Participants viewed a video and posted their opinions about the video by responding to an attributional question. The video that parents viewed demonstrated a parent that was using “negative reciprocity” to handle his daughter who purposefully broke a picture frame. The PBL attributional discussion question was: “What lesson is this dad teaching his daughter when he handles her anger like this?” Several types of attributional questions are illustrated in the COPE program (Cunningham, et al., 1998). Examples include questions about the social effect of parenting actions, social learning or lessons taught by parent behaviors, what parent behaviors may communicate to youth, long-term outcomes and effort. In

addition, parents were instructed to respond to other parents by reacting to other parents' opinions.

### Module Three

Screenshot 3. Screenshot of Learning Objectives Page from Module 3

The screenshot shows the PTZonline website interface. At the top, there is a header with the logo "PTZonline" and three small photographs of families. Below the header is a navigation bar with four tabs: "Orientation", "Parenting Styles", "Avoiding Responsibility", and "Non-Compliance". The "Avoiding Responsibility" tab is currently selected.

The main content area is titled "Parent Trouble Zones". On the left side, there is a sidebar with the heading "In the 'Zone' with PTZ" and four links: "Who Are We", "Resources", "Parent Group", and "Contact Us".

The main content area for "Avoiding Responsibility" contains the following text: "This is the most common of the three trouble zones for parents and teachers. Behaviors include, frequent forgetting, ignoring, and sloppy effort. 'Hiding your head in the sand'." Below this text is a small illustration of a person with their head buried in the sand.

Below the illustration, there is a section titled "What you will learn in this module?" which lists four bullet points:

- Find out if avoiding responsibilities is a problem
- How effective are your commands and requests?
- Handling avoidance of home and school responsibilities
- Using the balanced parenting style when handling avoidance

At the bottom of the main content area, there is a call to action: "So let's get started! Go to the next page". Below this, there are two buttons: "Previous" and "Next".

At the very bottom of the page, there is a small text line: "Last updated: January 14, 2013".

**Avoiding responsibilities.** This module was briefer than the preceding “Parenting Styles” module and was designed to encourage greater use of the next PBL discussion group. That discussion group was provided an opportunity for more extensive attributional discussions, and included a self-efficacy discussion about effort and collaborative group work. The topic in the individual learning module concerned passive

noncompliance and showed a video example of a child that was not completing homework.

The learning objectives for the “Avoiding Responsibilities” module included the following:

- (1) Parents will learn to quantify the effectiveness of their directions and behavior prompts.
- (2) Parents will determine how great of a problem that “avoiding responsibility” is in their home.
- (3) Parents will view an example of how to handle problems for avoidance of school responsibilities.
- (4) Parents will be introduced to a method for remaining calm when giving prompts.
- (5) Parents will learn about a tool for introducing problem-solving discussions at home.
- (6) Parents will learn about a tool for increasing praise.

The learning strategies for this module included the following:

- (1) Quizzes for self-assessment of understanding the differences between over-reactive parental responses and balanced parental responses to avoiding responsibility.
- (2) Use of multimedia audio-visual presentations to illustrate content and minimize reading through a branching navigation discovery process.
- (3) Downloads for skills-based tools for increasing regulation and relationship as well as remaining calm:

- a. Weekly problem-solving discussion tool
- b. Handout for praising effort
- c. Calming technique handout

Once participants completed the module on “Avoiding Responsibilities”, they were directed to the PBL discussion group. This is the second PBL discussion group in the training program and was facilitated by the researcher. The group process began with instructions on how to respond to attributional questions and how to react to other participants’ opinions. Asynchronous discussions were planned to begin with the following questions and directions:

(1) First attributional discussion question:

- a. Part One: In our first discussion group, you viewed a video of a father and daughter. Your discussions suggested he was teaching his daughter the following lessons: [list goes here and is based on previous discussion forum content]. Based on either information from the “Avoiding Responsibilities” module, and your own experiences or ideas, what are some alternatives this father might act on?
- b. Part Two: [facilitator joins discussion] So far, you have suggested the following alternatives: [list goes here and is based on previous discussion forum content]. Let’s view a video that shows alternatives. After viewing the video please compare your group’s alternatives. What did you learn by comparing your group’s alternatives to the professionally demonstrated alternatives? You can view the video by

clicking on the picture below [a screen captured picture of the video is just below these instructions with an icon of a start button].

(2) Second attributional discussion: In our discussions so far, each of you looked at a problem a father and daughter were having and problem-solved it. Is it worth the effort to solve problems this way?

(3) Summary: Group discussion summarized by the facilitator and instructions are provided for beginning the next training module.

## Module Four

Screenshot 4. Screenshot of Multimedia Presentation Page from Module 4

The screenshot shows a web-based multimedia presentation interface. At the top, there is a header with the logo "PTZonline" and three small photographs of families. Below the header is a navigation bar with four tabs: "Orientation", "Parenting Styles", "Avoiding Responsibility", and "Non-Compliance". The "Non-Compliance" tab is currently selected.

On the left side, there is a sidebar with the text "In the 'Zone' with PTZ" and four buttons: "Who Are We", "Resources", "Parent Group", and "Contact Us".

The main content area is titled "Parent Trouble Zones" and "Non-Compliance". It contains the following text: "Stubborn Noncompliance is the next most common *Trouble Zone* after *Avoiding Responsibility*. Let's begin work on this trouble zone with a quick review of an important part of our discussion from the previous module."

Below this text is a video player titled "Introduction to Stubborn Noncompliance Troubleszone". The video player shows a man in a shirt and tie, with a speech bubble that says: "Stubborn noncompliance" is the next most common trouble zone after "avoiding responsibility". Let's review a few things from that learning module...

At the bottom of the video player, there are navigation buttons: "PREV" and "NEXT".

Below the video player, there is a text box that says: "After reviewing the presentation above, go to the next page to continue."

At the bottom of the page, there are two buttons: "Previous" and "Next".

At the very bottom, there is a small text line: "Last updated: February 4, 2013".



**“Noncompliance”.** In addition to refining information on skills for prompting behavior, this final module focused on reinforcement with planned consequences. Several video vignettes presented a variety of parent and child situations where parents are challenged to remain calm, provide effective prompts and when met with noncompliance, deliver effective consequences. Although the focus of the video vignettes in the module was the demonstration of effective regulation when youth are noncompliant, the multimedia flash-based presentations balanced this focus by demonstrating the corresponding importance of relationship for influencing youth.

The learning objectives for the “Noncompliance” module include the following:

- (1) Defining daily compliance as training sessions.
- (2) Parenting will learn how to increase training session success rates.
- (3) Parents will learn about four methods for increasing compliance.
- (4) Parents will learn how to increase motivation for compliance.
- (5) Parents will learn about the use of relationship when problem solving problems for compliance.

The learning strategies for this module included those that were identified for the preceding modules; self-assessment quizzes, multimedia flash-based presentations to minimize reading, branching navigation to encourage interactivity with the content.

Once participants completed the module on “Noncompliance”, they were directed to the final PBL discussion group. The group process began with instructions reminding participants on how to respond to attributional questions and how to react to other participants’ opinions. Asynchronous discussion was repeated as illustrated in the previous modules. Discussions were be guided by questions that addressed effort, self-

efficacy and application of information and demonstrations within the “Noncompliance” module.

## **Data Analysis**

### **Preliminary analysis**

Quantitative data was entered and managed with SPSS (IBM, Corp.). Java Applets for Power and Sample Size software (Lenth, 2006) was used to find an appropriate balance among effect size, sample size, significance and power. The analysis was conducted based on a power level of 0.80 and a one-tailed test with an  $\alpha = .10$ . Because this is a pilot study, an alpha of .10 was chosen to minimize Type I error (Pallant, 2011) and one-tailed tests were used due to the directional nature of the hypotheses. The target sample size that balanced these conditions for a paired t-test was  $n = 19$ .

Continuous scale data were screened to assess for normality and non-normality of score distribution, due to skewedness, kurtosis or outliers. Based on this screening, it was determined that both parametric tests and non-parametric tests would be used to compare groups but only the parametric tests result would be reported, when findings of parametric and non-parametric tests were in agreement. Cohen’s  $d$  (Cohen, 1988) was used to calculate the magnitude of the effect size difference for significant paired sample t-tests. In addition, bivariate correlations were calculated to examine the direction and magnitude of associations between pre-and post-tests and to report key correlations.

**Hypothesis 1:** The training will increase parenting self-efficacy. The parenting self-efficacy scale was used to compare the research sample between pre- and post-test

with one-tailed, paired sample t-tests to determine if there was a significant change toward increased parenting self-efficacy.

**Hypothesis 2:** The training will decrease inept parenting. This hypothesis was tested using one-tailed, paired samples t-tests to compare means for the full-scale Parenting Scale-Adolescent Version at pre-and post-test.

- a.  $H_{2a}$ : A paired sample t-test compared means for the laxness subscale at pre-and post-test.
- b.  $H_{2b}$ : A one-tailed, paired sample t-test compared means for the over-reactivity subscale at pre-and post-test.

### **Exploratory question**

Are there characteristics of discussion forum participation that differentiate participants that increase parenting self-efficacy and reduce authoritarian and permissive parenting behaviors from those participants that do not increase parenting self-efficacy or reduce inept parenting behaviors? Analysis was conducted through the use of coding to compare the content of the discussion posts of participants and the open-ended questions from the LAS at a six-week follow-up. The coding process was managed with NVivo qualitative data analysis software (NVivo, 2012).

Because of the researcher's role as discussion forum facilitator, familiarity with the content from discussion posts began at the time of intervention. The process of reading posts, responding to posts and facilitating participation built familiarity with the content throughout the intervention. Facilitation also included emailing participants to thank them for specific contributions or to alert them, when peers had either responded to their posts or posted new information in which they might be interested.

Based on familiarity with the content, when all of the intervention groups had been completed, the process of coding was initiated with one initial code of “applies module content”. The discussion posts were then reread to aggregate ideas, concepts, phrases and memorable quotes into codes which were then reduced into main themes (Creswell, 2014).

### **Quantitative and Qualitative Data Integration**

For this concurrent, mixed methods study, preliminary analyses of both data sets were first conducted separately, as recommended by Creswell (2003). They were then integrated through an iterative process, whereby the quotations from the content analysis of discussion posts and the open-ended questions were merged into the quantitative data findings, in order to enrich the descriptions of results. In addition, the small sample made it possible to view scores for each participant’s pre-and post-test data and compare them with both their coded discussion posts and the group means. This process of triangulation showed where quotations corroborated survey data results. Where notable differences existed between survey data results and discussion posts, further analysis was conducted to search for new codes, in order to understand those differences.

When this integrative process was completed, the exploratory question was examined. Quantitative data- like frequency of posting and time spent posting was inadequate for determining the ways and extent to which forum participation contributed to outcomes. Therefore, a matrix was developed for this discussion, for comparison of qualitative data, based on extreme case analysis of quantitative data (Caracelli & Greene, 1993; Lee & Greene, 2007). Quotations and themes from the content analysis were then

used to compare participants at the upper and lower extremes of change scores in order to make decisions about the impact of forum participation.

## CHAPTER 4: FINDINGS

“We create our own problems many times. It pays to take a step back and think before you react to a situation or we are all creating the next generation of screamers” (Participant from the third intervention group).

### **Retention and Participation**

A total of 24 participants were recruited for the study and participated in four intervention groups. Of these, five participants dropped out after having entered at least one of the four discussion forums. Three participants dropped out of the second intervention group and two participants dropped out of the forth intervention group. There were no drop-outs in the first or third intervention groups. Overall, nineteen of participants (79%) completed the program.

Of the three participants that dropped out of the second intervention group, two did so after having completed three of four web-based modules and participating in three discussion forums. These participants were married and they reported leaving the program due to a family crisis. The other drop-out was a single-parent and she left the program after reporting increased work demands restricted her ability for any further participation. Two participants dropped out of the fourth intervention program after participating in one discussion forum. Reasons for their drop-out were undetermined.

### **Demographic Characteristics**

The final sample for this research included nineteen participants. Eight participants were recruited and participated in two interventions groups that were conducted for this study during 2010. The remaining eleven were recruited and participated in two interventions groups that were conducted for this study during 2013. The first eight participants were known to be seeking mental health services through their

employee assistance program (EAP). Eleven participants were recruited through fliers placed at adolescent medicine clinics, at a youth and adolescent outpatient psychiatry clinic, and through advertisement in a university newsletter.

The participants' ages ranged from 30 to 59 years with a mean age of 43.89 years. Fifteen (78.9%) of the participants were female. Non-Hispanic, whites made up fifteen e of the participants (78.9%), with African-Americans and Asian-Americans, each comprising two participants (10.5%). Fifteen participants (78.9%) were employed outside of the home and sixteen (84.2%) were biological parents. The participants were highly educated with ten participants (52.6%) having completed college, and seven (36.8%) having completed one to three years of college. These demographic data are summarized in Table 1.

Table 1

## Demographic Data for Participants Caregivers (N = 19)

	Mean	SD	Range
<u>Age</u>	43.89	6.71	30 - 59
	Frequency	Percentage	
<u>Sex</u>			
Female	15	78.9	
Male	4	21.1	
<u>Ethnicity</u>			
Non-Hispanic, White	15	78.9	
African-American	2	10.5	
Asian-American	2	10.5	
<u>Caretaker's Parenting Relationship</u>			
Biological parent	16	84.2	
Step-parent	1	5.3	
Other relative	1	5.3	
Guardian	1	5.3	
<u>Educational Level</u>			
High school graduate	2	10.5	
1-3 years college	7	36.8	
College graduate	10	52.6	
<u>Employment Status</u>			
Employed	15	78.9	
Homemaker	2	10.5	
Unemployed	1	5.3	
Unable to work	1	5.3	

**Youth characteristics.** The dependent youth of the caregiver participants ranged from ages 10 to 16 with a mean age of 14.16 years. Of these youth, twelve were male (63.2%) and seven were female (36.8%). Participant response to the questionnaire that asked participants to identify the level of oppositional defiant symptoms for their youth (Table 4) suggested participant caregivers had enrolled based on difficulties for



management of youth behavioral problems. The greater prevalence of males compared to females was consistent with the literature on rates of oppositional defiant disorder and gender with males predominating (American Psychiatric Association, 2013). Educational achievement ranged widely with four youth (21.1%) rated as failing in school and six youth (31.3%) rated as having above average academic performance. A participant in the first intervention group shared the following example of youth academic failure, psychiatric disturbance and parenting challenge. This example also illustrates negative parental feelings toward this youth:

He does have ADD, but after talking to his school counselor time and time again, we have learned that the reason why he has failed the classes he has and why he is making D's and F's in so many classes is primarily due to not turning in homework. My stepson plays on his mom's and grandma's emotions. He always wants my wife to buy him something that he does not need and begs like a little kid, if she says "no" and then gets mad and angry.

A participant in the fourth intervention group described other examples of youth mental health diagnoses with accompanying challenging behaviors: "I am a single parent with a 13 -year old daughter who is suffering from depression and an eating disorder. She is also very irritable and gets upset when asked to do simple tasks around the house."

Previous psychiatric treatment had been received by seven youth (36.8%) with four having been treated with medication (21.1%). These demographic data are summarized in Table 2.

Table 2

## Demographic Data for Children of Participants (N = 19)

	Mean	SD	Range
<u>Age</u>	14.16	1.98	10-16
	Frequency	Percentage	
<u>Sex</u>			
Female	7	36.8	
Male	12	63.2	
<u>Educational Performance</u>			
Failing	4	21.1	
Needs improvement	5	26.3	
Average	3	15.8	
Above average	6	31.6	
Outstanding	1	5.3	
<u>Youth Received Previous Psychosocial Treatment</u>			
No	11	57.9	
Yes	7	36.8	
Missing	1	5.3	
<u>Youth Received Medication</u>			
No	14	73.7	
Yes	4	21.1	
Missing	1	5.3	

N = 19

**Family support and assistance.** Family support and previous assistance data found that five of the families (26.3%) reported no other caretakers in the home. Of the caretakers who lived with another adult, eight were biological parents (42.1%), and three were stepparents (15.8%). Although fourteen of the participants (73.7%) had another adult living with them, only nine rated that adult as a helper to their role as caregiver (47.4%). A participant from the fourth intervention group described the difficulties of having “no help” in the parenting role, while fulfilling other important role responsibilities:

I do admit I give in with conflict of my daughter only because it is very difficult to play both roles as a consequence and fun parent. I work full time while she is at school then come home exhausted to my second job of parenting. I admit my frustrations play a part of my daughter knowing when to "try" me and at times get away with it.

Most participants who resided with another adult who did not share parenting responsibilities shared little about this aspect in discussion posts. However, posts by a participant from the second intervention group revealed that his rating of "no help" meant that he viewed his spouse, as a contributor to their teenager's behavioral problems, rather than as merely an absent parent. In one of several posts he obliquely complained of his spouse's impatient parenting behaviors. Overall, ten (52.6%) rated themselves as having no help at home with parenting responsibilities.

Group discussions during the program also highlighted historical aspects of support that aren't available in descriptive data. For example, a participant in the third intervention group reflected on the fact she had previously been a single parent. She believed this had played a role in her daughter's current challenging behaviors:

I have tried all types of parenting and nothing has every worked with my daughter. On the other hand I have given into her for many years, as I was a single parent and she is my only child. It feels like it has come around full circle to bite me in the butt.

Other forms of assistance were also identified. Assistance from a primary care physician was sought by nine of the participants (47.4%) and the same percentage sought assistance from a school. Mental health agencies were a source of assistance for seven (36.8%) and the same percentage sought assistance from a friend. A relative was a source of assistance for six of the participants (31.6%) and three sought assistance from a pastor (15.8%). These data are summarized in Table 3.

Table 3

## Family Support and Assistance Data (N = 19)

	Frequency	Percentage
<u>Other Caretaker in the Home</u>		
None	5	26.3
Biological parent	8	42.1
Stepparent	3	15.8
Legal guardian	1	5.3
Unmarried partner	1	5.3
Grandparent	1	5.3
<u>How long concerned about youth</u>		
Less than 6 months	4	21.1
7 to 12 months	4	21.1
13 to 24 months	3	15.8
25 or more months	8	42.1
<u>Other Adults Help at Home</u>		
No help	10	52.6
Receive help	9	47.4
<u>Other Assistance Sought</u>		
Primary care physician	9	47.4
School	9	47.4
Mental health agency	7	36.8
Friend	7	36.8
Relative	6	31.6
Pastor	3	15.8

**Descriptive Statistics for Pre-Post-Follow-Up and Discussion Forum**

Participants completed three pre- and post-tests and a six-week follow-up questionnaire. The pre-post-tests were: 1) Parenting Scale – Adolescent Version (PSA), 2) the Parent Self-Agency Measure (SAM), and 3) the Evidence-Based Questions for Assessing Likelihood of Meeting DSM-IV Criteria for Oppositional Defiant Disorder

(ODD). The six-week follow-up questionnaire was the Learning Activities Survey (LAS).

**Parenting Scale Adolescent-Version (PSA).** Pre-test scores on the PSA ranged from 27 to 57 ( $M = 43.05$ ,  $SD = 7.48$ ) and the post-test scores ranged from 24 to 52 ( $M = 39.32$ ,  $SD = 8.55$ ). For the two sub-scales, LAX and OVER, pre-test scores on the LAX ranged from 11 to 27 ( $M = 19.26$ ,  $SD = 6.10$ ), while post-test scores ranged from 6 to 32 ( $M = 18.00$ ,  $SD = 6.60$ ). Pre-test scores for the OVER ranged from 13 to 35 ( $M = 21.37$ ,  $SD = 5.46$ ), while post-test scores ranged from 11 to 29 ( $M = 18.89$ ,  $SD = 5.20$ ). The decrease in means between the pre-and post-test from the PSA and its subscales LAX and OVER indicate there was a decrease in inept parenting behaviors measured by the questionnaires.

In addition to the two subscales, OVER and LAX, the PSA also contains one item that asks about monitoring. The pre-test scores for this item ranged from 1 to 7 ( $M = 2.42$ ,  $SD = 1.54$ ) and the post-test scores ranged from 1 to 5 ( $M = 2.42$ ,  $SD = 1.17$ ), indicating no group level change in monitoring throughout the intervention program.

**Parenting Self-Agency Measure (SAM).** Pre-test scores on the SAM ranged from 11 to 30 ( $M = 22.24$ ,  $SD = 4.77$ ) and post-tests scores ranged from 18 to 32 ( $M = 25.21$ ,  $SD = 5.54$ ). The increase in means between the pre- and post-test indicates a change toward greater parenting self-agency.

**Evidence-Based Questions for Assessing Likelihood of Meeting DSM-IV Criteria for Oppositional Defiant Disorder survey (ODD).** For the two items that measure duration at pre-test, 15 of the participants' youth (80.0%) were rated for diagnostic likelihood on both items. Two youth (10.5%) were rated for diagnostic

likelihood on one item and two youth (10.5%) were not rated for diagnostic likelihood on either item. At post-survey, there were reductions in the number duration ratings for youth. Only ten youth (52.6%) were rated on both items for diagnostic likelihood. Four youth (21.1%) were rated on one item for diagnostic likelihood and five youth (26.3%) were not rated on either item for diagnostic likelihood.

At pre-test, eleven youth (57.9%) met the full criterion for diagnostic likelihood with four or more symptoms and eight youth (42.1%) did not meet criterion. At post-test, seven youth (36.8%) met the full criterion for diagnostic likelihood with four or more symptoms and twelve youth (63.2%) did not meet criterion. This drop from 11 to 7 youth was a 21 percent decrease for numbers of youth meeting diagnostic criteria for ODD likelihood at post-test.

For the composite variable DSM-IV/ODD, at pre-test participants reported a range of zero to seven DSM-IV symptoms of ODD ( $M = 4.05$ ,  $SD = 2.04$ ). At post-test participants reported a range of zero to six symptoms ( $M = 2.63$ ,  $SD = 2.22$ ) indicating a change toward fewer reports of DSM-IV symptoms.

An example of the behaviors that illustrate symptom frequency and ODD likelihood is provided in a forum post by a participant in the first intervention group:

When he does not get his way about something or is made do something he does not want to do, it is not unusual to hear him scream, yell, cuss, punch walls, kick doors and go into a rage. He acts like a two year old throwing a fit.

In another example of symptom frequency and ODD likelihood, another participant from the first intervention group posted:

She is very defiant, ignores rules, always wants to argue, and her mood can change in an instant. I love her very much, but she is very hard to be

around because of her argumentative behavior and at times, I feel very overwhelmed and frustrated. Sometimes it seems that she enjoys doing anything that she can to upset me.

Symptom duration and ODD likelihood was illustrated by a parent in the third intervention group in the following post: “My daughter will do well for a period of time and we start to let her have privileges back then it all heads south again and quickly.”

The descriptive data for the PSA, OVER, LAX and SAM are presented in Table 7. Descriptive data for oppositional defiant disorder symptoms and ODD likelihood are presented in Table 4.

Table 4

Descriptive Data for Oppositional Defiant Disorder Symptoms and ODD Likelihood (N = 19)

	<u>Pre-Test</u>		<u>Post-Test</u>	
	Frequency	(%)	Frequency	(%)
<u>Duration items</u>				
None	2	10.5	5	26.3
One item	2	10.5	4	21.1
Two items	15	80.0	10	52.6
<u>ODD Likelihood</u>				
ODD not likely	8	42.1	12	63.2
ODD likely	11	57.9	7	36.8

**Discussion Forums.** The psychoeducational program has two main program elements: web-based, individual instructional modules and weekly, online group discussion forums. Activity data was only collected from the group discussion forums, as

tracking software was not used to observe participant interaction with the web-based modules. The quantitative data included the total number of forum posts by participants in each of the four groups that were conducted throughout the study. Forum posting totals were also obtained for each of the program's four modules. The total number of posts to module one was 18 ( $M = .95$ ,  $SD = .41$ ). There were a total of 37 posts to module two ( $M = 1.95$ ,  $SD = .97$ ), 21 posts to module three ( $M = 1.11$ ,  $SD = .57$ ) and 15 posts to module four ( $M = .79$ ,  $SD = .79$ ) with an overall total of 91 posts ( $M = 4.58$ ,  $SD = 1.58$ ). The total amount of time spent online by the group members in their discussion forums ranged from 2 to 182 minutes ( $M = 80.84$ ,  $SD = 40.77$ ).

Overall, discussion posts provided participants with opportunities to apply module content to problem-based learning discussions, as well as interact with others around their own individual parenting concerns. Although content from discussion posts by nature did not provide a great deal of rich data, their integration with survey data provided a more holistic picture of participation and outcomes. For example, while descriptive data indicated there was an overall reduction in harsh parenting, a participant from the third intervention group reflected on how over-reactive and aversive parenting behaviors, contributed to her daughter's behaviors for non-compliance:

“I think...I expect too much and ask for too many things to be fixed at once, instead of putting some kind of order to it. My daughter never really has a chance to do what I shouted for her to do”.

Descriptive data for discussion forums are presented in Table 5.



Table 5

## Descriptive Statistics for Discussion Forum Data

	Post Totals	(%)	Range	Mean (SD)
<u>Discussion Forum Posts</u>				
Module 1	18	19.7	0 – 2	.95 (.41)
Module 2	37	40.7	0 – 3	1.95 (.97)
Module 3	21	23.1	0 – 2	1.11 (.57)
Module 4	15	16.5	0 – 2	.79 (.79)
Total Posts	91	100.0	1 – 7	4.79 (1.58)
	Minutes		Range	Mean (SD)
Total Time Spent*	1536		2.00 – 182.00	80.84 (40.8)

*Note.* \*Software tracking did not provide data on time spent per module

**Relationships between Measures**

Based on the small sample size and the presence of non-normally distributed data, both parametric Pearson correlations and nonparametric Spearman rho correlations were conducted. Only the Pearson correlations are reported, as findings were consistent between both analyses.

The comparison between pre-test PSA associations with the other pre-test subscales and the post-test subscales indicates outcomes for lessened levels of parenting disturbances post-intervention. Also, at post-test there was little association between the LAX and OVER ( $r = -.03$ ) indicating as would be expected, each are measuring different types of parenting disturbance.

Significant inverse linear correlations at both pre-test ( $r = -.57$ ) and post-test ( $r = -.80$ ) between PSA and SAM indicated that lower levels of inept parenting are significantly associated with higher levels of parenting self-agency at program start and

end. These inverse relationships held true at both pre-test ( $r = -.64$ ) and post-test ( $r = -.74$ ) between LAX and SAM indicating lower levels of lax/permissive parenting behaviors are significantly associated with higher levels of parenting self-agency at program start and end. However, there were no significant associations at either pre-test ( $r = -.03$ ) or post-test ( $r = -.32$ ) between OVER and SAM. This suggests that harsh and aversive behaviors identified by OVER were not associated with parents' proximal experience of negative parenting self-agency.

Examples of harsh parenting behaviors in the presence of high self-agency scores can be found in posts by parents from the various intervention groups. An example from the first intervention group illustrates how harsh parenting behaviors are presented by the participant as both necessary and unavoidable, "If parents never show strong emotion or anger I think it leaves the perception, right or wrong, that the parent is weak and can be manipulated." In an example from the fourth intervention group, a parent makes a similar observation, "At some point, if you don't 'crack' on him, he won't see that he is the one making consequences worse on himself for his continued misbehaviors". When negative feelings are held toward the youth, they have been found to be strongly associated with coercive parenting behaviors (Irvine et al., 1999a). Intercorrelations for PSA, LAX, OVER and SAM are presented in Table 6.

Table 6

Pearson's Product Moment Correlations for Parenting Scales and Parenting Self-Agency (N = 19)

	<u>Pre-Test</u>					<u>Post-Test</u>		
	1	2	3	4	5	6	7	8
<u>Pre-Test</u>								
1. PSA <b>Full Scale</b>	–	.63***	.60***	-.57***	.49**	.52**	.20	-.47**
2. LAX <b>Subscale</b>		–	-.21	.64***	.51**	.81***	-.17	.56***
3. OVER <b>Subscale</b>			–	-.03	.09	-.13	.37	-.04
4. SAM				–	.49**	.70***	.15	.62***
<u>Post-Test</u>								
5. PSA <b>Full Scale</b>				–	–	.77***	.60***	-.80**
6. LAX <b>Subscale</b>						–	-.03	.74***
7. OVER <b>Subscale</b>							–	-.32
8. SAM								–

Note. \*\*\* =  $p \leq .01$  level (1-tailed), \*\* =  $p \leq .05$  level (1-tailed).

## Research Hypotheses

### Research Hypothesis 1

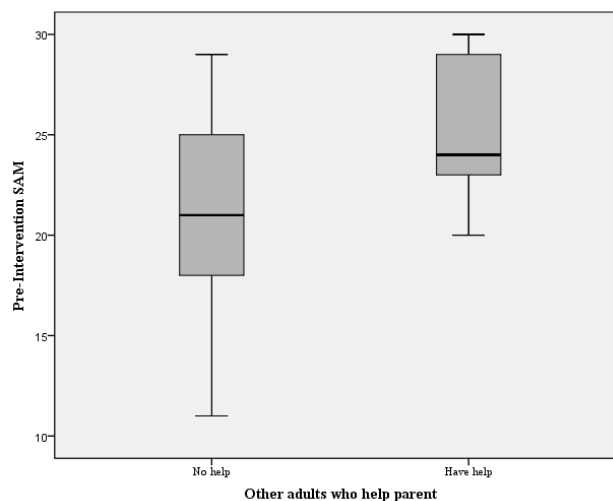
A paired samples t-test was conducted to compare the impact of participation in the psychoeducational intervention on parenting self-agency (SAM) between pre- and post-test. The related samples Wilcoxon Signed Rank Test was also conducted and nonparametric findings were consistent with the paired t-test, so only the parametric test is reported. At program start  $M = 22.74$  with  $SD = 4.77$  and at program end  $M = 25.21$  with  $SD = 5.54$  for an increase in the average of  $M = 2.47$  with  $SD = 4.55$ . The

improvement in parenting self-agency through online program participation was statistically significant,  $t(18) = -2.37, p = .014$  (one-tailed).

Eta-squared was used to calculate an effect size of .21. Based on Cohen's guidelines (1988), this indicates a large effect in the magnitude of difference in parent self-agency at post-intervention could be explained by program participation. These data are presented in Table 8.

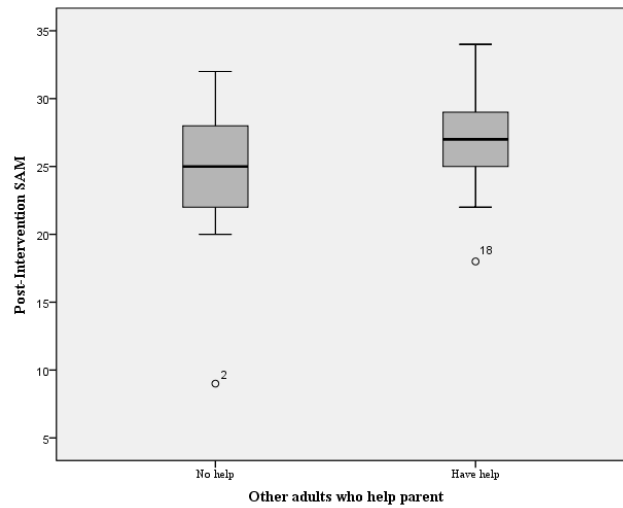
Variables like being a single-parent have also been shown to influence parent management outcomes (Kaminski et al., 2008). To measure difference at each data collection point of online participation for parents with and without help at home, a Mann-Whitney U Test was conducted to compare parenting self-agency at pre- and post-intervention for those participants with help and those without help at home. Boxplots were analyzed and appeared roughly similar at pre-intervention in Figure 3 and there were no extreme points or outliers.

Figure 3. Pre-Intervention Boxplots Comparison of Self-agency for Parents with and without Help at Home.



At post-intervention boxplots were also similar in shape, (see Figure 4) although outliers were present in boxplots for both participants with and without help. Outliers demonstrated low levels of self-efficacy. They were not removed for analysis because each group contained an outlier and both were located below the median.

Figure 4. Post-Intervention Boxplots Comparison of Self-Agency for Parents with and without Help at Home.



At pre-intervention, the Mann-Whitney U test revealed a significant difference in parenting self-agency levels for participants without help ( $Md = 21$ ,  $n = 10$ ) compared to participants with help ( $Md = 24$ ,  $n = 9$ ),  $U = 24.50$ ,  $z = -1.68$ ,  $p = .05$  (1-tailed). However, there was no longer a significant difference between these groups at post-intervention,  $U = 30.50$ ,  $z = -1.19$ ,  $p = .12$  (1-tailed). These data are presented in Table 7.

Table 7

Group Differences for Parenting Self-Agency: Participants with and without Parenting Help

<u>Participants and Parenting Help</u>	<u>Pre-Intervention</u>					
	<u>Without Help</u>	<u>With Help</u>				
	Median	Median	<i>U</i>	<i>z</i>	<i>p</i>	<i>r</i>
SAM	21.00	24.00	24.50	-1.68	.05**	.36
<u>Post-Intervention</u>						
SAM	25	27	30.50	-1.19	.12	n/a

*Note.* \* \* =  $p \leq .05$  (1-tailed).

$N = 10$  for participants reporting no help with parenting.

$N = 9$  for participants reporting help with parenting.

**Discussion posts and parenting self-agency.** Discussion posts were found to reflect the hypothesis findings regarding effects for increased self-agency, which includes increased confidence in parenting abilities and coping persistence. This finding was observed in the posts of participants, who commented on the experience of mutual aid in their forum participation. Mutual aid includes several processes that were mapped by a social worker, William Schwartz (Shulman & Gitterman, 1986). Participants, who had SAM scores that increased at or almost two standard deviations between pre- and post-intervention, described experiences that reflected increased confidence, based on the mutual aid process of “all in the same boat” (Steinberg, 2004). A participant from the first intervention group posted:

I believe that it does make a difference to work with other parents, because I can see that I am not the only parent having these struggles with my child and the parenting style that I have been using isn't working. We are all having difficulties with our child even though our particular situations

may be different from each other. It helps to see what each parent is struggling with and what they are doing to help resolve the problem.

Confidence was also linked with mutual aid in a post by a participant from the third intervention group: “It's reassuring that other parents are also taking a step back to look at their parenting style with a new awareness of vocal and physical cues they give when confronting their kids. I'm glad I'm not alone!”

The link between confidence and “all in the same boat” was also illustrated by a participant who had higher levels of parenting self-agency at both program start and end:

Yes, I agree with [another participant] putting your feelings out there about different situations helps you cope with what's going on in your life and understanding that you are dealing with everyday problems that all parents experience. You are not alone when dealing with a teenager. It can be a difficult time for you and your kid.

“Sharing data” (Shulman & Gitterman, 1986) which involves both advice-seeking and advice-giving, was another mutual aid process that was observed in the posts of those with increased self-agency scores. In fact, all but one participant with increased self-agency scores created posts that included “sharing data” comments directed to specific participants in their group. These were as brief as: “[Participant name], I fully agree with you” or as specific and confidence-bearing, as the following by a participant from the third intervention group:

Hi [participant name]! That's a real tough question, because each child is different. As I stated before I have two girls and I use different techniques on each because they value different things. Perhaps, like in the video, you should start with a list of her privileges and assign a value to each activity.

This participant's reference to a video indicated she was applying content from one of the learning modules.

## Research Hypothesis 2

It was hypothesized that training would decrease inept parenting behaviors, through a reduction in authoritarian and/or permissive parenting behaviors. A paired samples t-test compared online program impact on parenting style between pre- and post-intervention. Because of the small sample size and the presence of non-normally distributed data, a nonparametric t-test, the related samples Wilcoxon Signed Rank Test was also conducted. The nonparametric findings were consistent with the paired t-test, so only the parametric test is reported. At program start the  $M = 43.05$  with a  $SD = 7.48$  and at program end the  $M = 39.32$  with  $SD = 8.55$ , so that online program participation decreased authoritarian/coercive parenting by an average of  $M = 3.74$  with  $SD = 8.12$ . The decrease was statistically significant,  $t(18) = 2.01, p = .03$  (one-tailed). Based on Cohen's guidelines (1988), the eta-squared calculation of .18 indicated a large effect size in the magnitude of difference between pre-and post-intervention. These data are presented in Table 8.

**Discussion posts and inept parenting behaviors.** These data on reduction in inept parenting behaviors were reflected in discussion posts that illustrated a process through which participants used module content to analyze reasons for their current management difficulties and set goals for change, based on their analysis. Coding of discussion post data within a pre-determined category of "application of module content" identified numerous themes, including those that were consistent with the learning modules' typology of parenting behaviors. These included "balanced parenting style", "task-centered parenting style" and "relationship-focused parenting style".



These terms “balanced”, “task-centered” and “relationship-focused” were introduced in the second module, through the use of a self-test that allowed participants to obtain a parenting style rating based on this typology. The module’s self-test questions were written, so that when a participant’s scores reported they had a “balanced” style, it referred to parenting that was authoritative and included skills from each of the other two types. The “task-centered” questions were written so that when a participant’s scores reported they had a “task-centered style” it referred to parenting that was authoritarian and results meant they were reporting a prominent number of harsh, over-reactive parenting behaviors. “Relationship-focused” questions were written so that when a participant’s scores reported they had a “relationship-focused style”, it referred to permissive parenting and results meant they were reporting a prominent number of lax, inconsistent parenting behaviors.

The terms “task-centered” and “relationship-focused” were developed for this program to provide a positive reframe that would engage parents and provide clear goals for change, e.g. a “task-centered” parent wants to increase “relationship-focused” skills to become more “balanced”. In fact, many participant discussion posts illustrated the application of this content regarding parenting style and subsequent goals for change. For example, in the first intervention group, a participant whose individual PSA scores for inept parenting reduced from 41 to 31 posted: “My goal is to work on my parenting style to become more balanced. Also, to understand where my emotional trip points are so that I can remain in control. I would rate my parenting style change [goals] an 8 or 9 [on a scale from 1 to 10].”

In an example from the third intervention group, the participant used the typology to develop goals for change. Her individual PSA scores for disturbed parenting reduced from 42 to 34:

I have always had a balanced parenting style, but I'm not very strong when it comes to follow-through, and my son knows how to push my buttons and take advantage of the relationship aspect of the balanced parenting style. I tend to ask him to do tasks instead of tell him.

In another example from the fourth intervention group, the parenting style typology is again used by a participant to clarify the nature of her difficulties for management and to begin a process of setting goals for change. However, while her individual PSA scores did not improve and in fact increased from 47 to 48, the number of DSM-IV/ODD behaviors rated for her child reduced from 6 to 4: “My compliance rate was 33% which is upsetting. My parenting style is TC which is also upsetting. I don't want to think that all I'm doing is wanting my son to complete a task. I want to parent him.”

### **Research Hypothesis 2a**

It was hypothesized the training would reduce inconsistent and permissive parenting as measured by the 6-item LAX subscale from the Parenting Scale – Adolescent Version (PSA). This analysis was conducted with a paired samples t-test and the nonparametric related samples Wilcoxon Signed Rank Test. Because findings were not consistent, only the results from the related samples Wilcoxon Signed Rank Test are reported. The analysis did not find a statistically significant difference in reduction of inconsistent and permissive parenting behaviors between the pre-intervention and post-intervention,  $z = -1.23$ ,  $p = .11$  (one-tailed). The median score for the LAX increased from pre-test survey ( $Md = 18$ ) to post-test survey ( $Md = 19$ ). These data are presented in Table 8.

**Discussion posts and permissive parenting behaviors.** Fewer themes were derived from content analysis that centered on reduction of permissive and inconsistent parenting behaviors as measured by LAX. So for instance, although many themes were coded concerning the problems associated with over-reactive parenting behaviors, fewer themes were associated with inconsistent parenting behaviors. For over-reactive parenting behaviors, themes often concerned the management of anger. For inconsistent and permissive behaviors there were no themes that concerned specific actions that could be taken to manage inconsistency. This could be an artifact of the strong inverse correlation between these lax parenting behaviors and parenting self-agency. High self-agency impacts the capacity to change because it can increase coping persistence in the face of failure. Researchers have also reported that low levels of self-agency are strongly associated with depressed mood (Cheung & Sun, 2000). For instance, a participant in the second intervention group rated a great number of lax parenting behaviors, as indicated by LAX scores that were almost two standard deviations about the mean at pre- and post-intervention. He posted “I think that something is wrong with me or our parenting. I just don't know what to do”. His SAM score was more than two standard deviations below the mean at pre-intervention showing low levels of parenting self-agency.

### **Research Hypothesis 2b**

It was hypothesized the training would improve parenting style in a positive direction, through a reduction in harsh and authoritarian parenting behaviors, as measured by the 6-item Over-reactivity (OVER) sub-scale from the Parenting Scale – Adolescent Version (PSA). This analysis was conducted with a paired samples t-test to compare the impact of participation for decreasing harsh, authoritarian parenting between

pre- and post-intervention. The nonparametric Related Samples Wilcoxon Signed Rank Test was conducted and because the nonparametric findings were consistent with the paired t-test, only the parametric test is reported. At program start  $M = 21.37$  with  $SD = 5.46$  and at program end  $M = 18.89$  with  $SD = 5.20$  for a decrease in harsh parenting by an average of  $M = 2.47$  with a  $SD = 5.97$ . The decrease was statistically significant,  $t(18) = -1.81$ ,  $p = .04$  (one-tailed). The eta-squared calculation of .15 indicated a large effect size based on Cohen's guidelines (1988). These data are presented in Table 8.

**Discussion posts and coercive parenting behaviors.** An analysis of word frequency and themes from the discussion- post data, demonstrated that finding ways to reduce harsh parenting behaviors played a prominent role in discussions. For instance, NVivo software's word query tool identified the word "calm" to be one of the most frequently used words by participants in their discussion posts. In many of these discussions the word "calm" was used to describe how parents should approach youth be, when believed they are about to be challenged. These descriptions included the following excerpts:

...begin our interactions from a calm, centered place", "the calm approach definitely helped in my...", "if remaining calm is what it takes...", "remaining calm is what she needed to...", "but how can we stay calm when negative things happen", "we should keep thinking STAY CALM", "I learned how to be more calm and discuss problems...", "I'm going to make a concerted effort to approach things as calmly as possible.

In the coding category "applies module content" several themes were identified that described similar actions that parents could take to reduce harsh parenting behaviors, when confronted by management challenges. Themes included: "Do Something Else", "Stay Calm" and "Stop and Think".

**Negative Reciprocity.** A form of coercive parenting is ‘negative reciprocity’ (Forgatch & Martinez, 1999), which occurs when a parent uses aversive behaviors to manage behavior, as is illustrated in the proverbial “eye for an eye, tooth for a tooth” maxim. A participant in the third intervention group reflected on her own use of negative reciprocity in her quote from a problem-based learning discussion:

I have to admit it that I have become this type of parent. I wasn't raised in a setting like that but it's how I react. Not always yelling but more of the “how about I break something of yours would you like that” attitude.

Her change score for over-reactive, coercive parenting behaviors reduced from 26 at pre-intervention to 19 at post-intervention, indicating an improvement in parenting outcomes by more than one standard deviation for this variable.

**Punishment traps.** In an example from another parent in the third intervention group, who also reduced over-reactive behaviors between pre- (26) and post-intervention (19) reflected on how stress influenced her parenting behaviors. Stress is a variable that is cited in the literature of parenting and oppositional behavior, as a factor that contributes to ineffective responses to youth misbehavior (Forgatch & Martinez, 1999). Kazdin (2005) refers to these as “punishment traps”. Punishment traps are produced when harsh and coercive parenting responses to childhood misbehavior temporarily halt noncompliance. Parents are negatively reinforced by the temporary cessation in noncompliance. However, harsh and coercive responses are reactive and cannot become antecedents that gain stimulus control over child misbehavior. Maintenance of child aggression occurs when this pattern continues over time and parents repeatedly model aggression, while their child’s observational learning leads to their own deployment of

aggressive and aversive behavior to avoid compliance. The parent described a punishment trap in a discussion post:

...lately, I feel that I've been leaning more towards TC [TC = "task-centered" indicating the presence of harsh parenting behaviors] because of my stress load. In fact, I've found myself in a bit of a vicious cycle. The more my approach is TC-heavy, the lower the compliance rate is and the lower my compliance rate, the more likely I am to lean towards the TC approach.

Table 8

Parenting Style and Self-Agency Group Differences for Pre-and Post-Test Surveys

Paired Samples t-test	<u>Pre-Test</u>	<u>Post-Test</u>			
	Mean (SD)	Mean (SD)	<i>t</i>	<i>p</i>	ES
SAM	22.74 (4.77)	25.21 (5.54)	-2.37	.01***	.21
PSA <sub>Full Scale</sub>	43.05 (7.48)	39.32 (8.55)	2.01	.03**	.18
OVER <sub>Subscale</sub>	21.37(5.46)	18.89 (5.20)	1.81	.04**	.15
Wilcoxon Signed Rank Test	<u>Pre-Test</u>	<u>Post-Test</u>			
	Median	Median	<i>z</i>	<i>p</i>	ES
LAX <sub>Subscale</sub>	18	19	-1.23	.11	n/a

*Note.* \*\*\* =  $p \leq .01$  (1-tailed), \*\* =  $p \leq .05$  (1-tailed).

$N = 19$

### Six-Week Follow-up

**Learning Activity Survey (LAS).** At six weeks, a follow-up questionnaire of the program's learning activities (LAS) was obtained. Participants identified whether their perspectives on parenting had transformed, either due to the program's learning activities or due to factors external to the program. Participants also identified aspects of the intervention program that they believed contributed to perspective transformation. One

participant identified a perspective transformation, due to the external factor of marriage dissolution. Thirteen (63.1%) of the participants indicated they experienced some change in their parenting perspective, due to participation in the program and five (26.3%) indicated they had experienced no change in their parenting perspective, due to participation in the program or external factors.

### **Exploratory Question**

Are there characteristics of discussion forum participation that differentiate between those participants that increase parenting self-efficacy and that reduce authoritarian and permissive parenting behaviors and those that do not? The characteristics of participation were obtained through a content analysis of discussion posts. The themes obtained from that analysis revealed posting characteristics that were clustered into two main categories: 1) applies module content and 2) mutual aid. The prominent codes from the theme “applies module content” were “assesses parenting style”, “compliance rate”, “staying calm” and “stop and think”. From the category “mutual aid”, the most prominent codes were “all in the same boat”, “mutual support” and “sharing data”. Sharing data included sub-codes of “advice-seeking”, “advice-giving” and “self-reflection”.

The strategy used to address whether discussion group participation contributed to change was informed by the examples of extreme case sampling (Caracelli & Greene, 1993; Lee and Greene (2007), extreme case analysis (Kemper, Stringfield & Teddie, 2003) and maximum variation (Patton, 1990), all procedures that share an interest in exploring the upper and lower extremes of a phenomenon. A comparison of upper and lower extremes can aid in the discovery of both commonalities and differences. Patton

(1990) recommended maximum variation for analysis with small samples where heterogeneity can be a problem. “Any common patterns that emerge from great variation are of particular interest and value in capturing the core experiences and [the]central, shared aspects or impacts of a program” (p. 172). For this analysis, content was compared from the posts of participants, whose change data represented extremes in outcomes for the self-agency variable. If no differences in thematic content were present in the posts of those at the variable extremes, it was inferred that participation did not contribute to participant outcomes. If differences were present, then commonalities within upper extremes were searched for to consider their influences on learning effectiveness.

**Self-agency.** Self-agency, as measured by the variable SAM was chosen for this comparison, based on its similarity to Bandura’s (1997) concept of self-efficacy. “The higher the perceived self-efficacy, the greater are the performance accomplishments” (p. 95). Self-efficacy has been found to be an important to recovery in mental health social support groups. Cheung and Sun (2000) found self-efficacy mediated mental health outcomes in mutual aid groups, when mutual aid involved positive interaction to provide emotional support and information was shared. Magura, Cleland, Vogel, Knight, & Laudet, (2007) found active participation in a mutual aid group was significantly associated with positive self-efficacy expectations and recovery for individuals with dual diagnosis.

**Self-efficacy.** Self-efficacy is based on appraisals of an individual’s capacity to perform a task, which according to Bandura (1997) is influenced by mastery experience, vicarious experience, social persuasion and physiological states. In this intervention



program, parenting self-agency is based on an appraisal that involves the assessment of capacity to perform the tasks associated with the parenting role. Like self-efficacy, mastery experiences increase self-agency when participants are persuaded of their capacity to achieve future success, after coping with obstacles and mastering a task. Vicarious experiences persuade participants of their capacity to achieve success, when similar peers cope with obstacles and achieve success. Social persuasion increases self-agency when others persuade participants of their capacity to achieve success. Physiological states increase self-agency when internal appraisals about capacity and success are bolstered through affective experiences like confidence.

Based on these four modes of influence, self-agency linkages can be observed with the two main thematic categories of content analysis: 1) application of module content and 2) mutual aid. The application of module content can increase self-agency through mastery and vicarious experience. Mutual aid can increase self-agency through both social persuasion and the influence of social interaction on physiological states like confidence.

**Extreme case analysis.** Outliers were identified among participants based on their SAM change scores between pre- and post-intervention that were at or near two standard deviations above or below the group mean increase in SAM at post-intervention ( $M = 2.47$ ;  $SD = 4.55$ ). Four participants were identified. These included one participant each from the first, second and third intervention groups and one from the fourth intervention group. One participant had a change score that more than 1 ½ standard deviations below the SAM change score group mean, while the others had scores that were at or close to two standard deviations above the group mean. A matrix was used to compare the

quantitative and qualitative results for these participants. Plano Clark, Garrett and Leslie-Pelecky (2010) recommended the use of a matrix as one of three strategies for merging quantitative and qualitative data. The matrix is presented in Table 9.

**Lower extreme participant.** The participant with SAM scores at the lower extreme was a female from the fourth intervention group. Her SAM change score was -8. Her pre-intervention score was 17 and her post-intervention score was 9, indicating a decline in self-agency. She described both her parenting status and challenges with her daughter in an early post: “I am a single parent with a 13 year old daughter who is suffering from depression and an eating disorder. She is also very irritable and get upset when asked to do simple task around the house.” Her youth ODD survey found no likelihood for DSM-IV diagnosis of oppositional defiant disorder at pre- or post-intervention. However, she had been concerned about her daughter’s reported problems for more than two years at pre-intervention.

A main difference in the quality of this participant’s posts in comparison to participants at upper extremes was their brevity, the absence of self-efficacy coping-persistence posts or the use of mutual aid processes. There was only one instance of thematic content in her posts related to the category of mutual aid. That post identified her hope about the potential for mutual support as an outcome from her participation. However, unlike the participants at the upper extreme, she did not post any messages that reflected mutual aid processes like “all in the same boat” or “sharing data”. In addition, unlike the upper extreme participants, she directed no comments to her other group members reflecting self-efficacy coping persistence or the application of module content.

Within the theme of “applies module content”, a similarity to upper extreme participants’ discussion was her identification of obstacles to her parenting performance. She applied module content by analyzing her parenting style and setting a goal for change: “I discovered I use relationship style parenting and that is not working very well. My daughter needs more structure and I need to work on that.” However, a difference from the upper extreme participants is that she did not engage in further discussion to support her goal with specific actions that could be undertaken for change. At post-intervention there was a decline in the participant’s parenting behaviors outcomes. The full-scale PSA change score was -2 and this include a change score of -1 for the LAX measure of inconsistent parenting behaviors, a score of 0 for the OVER measure of over-reactive parenting and a score of -1 for the single monitoring item.

**Upper extreme participants.** The upper extreme case from the first intervention group was a female participant. She reported she had no help in her parenting role inside the home, although she stated she was married:

I am a married mother & have been having problems with my 12 year old daughter for quite a while. She was diagnosed with ADHD when she was only 2 years old. For the last couple years ADHD has not been a problem, but she then began exhibiting new behaviors that have been difficult to deal with. She is very defiant, ignores rules, always wants to argue, & her mood can change in an instant.

She was active in problem-based collaborative discussions and was observed to apply content from the learning modules. Mutual aid processes for “all in the same boat” and “sharing data” were observed in her posts. A final post illustrated coping-persistence, where setbacks are accepted and self-agency expectations predict eventual success, “If I didn't achieve the results that I wanted, then I would tell myself that it is going to take some time using these new skills and achieving the results that I want.” This

participant's change scores for parenting behaviors were consistent with high self-efficacy expectations. Her full-scale PSA change score was 10, her LAX change score was 4 and the OVER change score was 5. Her single-item monitoring score was 1.

The upper extreme case from the second intervention group was a male participant. He also reported no help in the parenting role, yet identified himself as married. He reported six DSM-IV symptoms for Oppositional Defiant Disorder at pre-intervention and none at post-intervention. In an early post he shared considerable anxiety about his son.

I just don't know what to do. From my point of view, if he is not making some serious change his life will be miserable. It makes me so anxious. I wish he will be happy and healthy in his entire life. Hopefully, it's just too much worry from me.

He rated these problems to be of more than two years duration. The participant's posts shared qualities of other participants' posts at the upper extremes in that he was observed to apply module content and mutual aid processes including "all in the same boat" and "sharing data", as well as self-efficacy coping persistence.

**Self-efficacy and inept parenting behaviors mismatch.** Unlike the other upper extreme participants, where high self-efficacy change scores were associated with reductions in the other parenting outcome measures of inept parenting behaviors, his overall change scores showed no reductions in these parenting behaviors. This apparent mismatch between high self-efficacy expectations with no reduction in inept parenting behaviors becomes understandable however, when analysis was broadened to consider the context of his group discussion.

His intervention group began with six participants, three of whom dropped-out late in the intervention program, due to life circumstances that prevented further participation.

One of the remaining two participants was his spouse. Their discussion posts revealed long standing parenting style conflicts. These were corroborated in their parenting behavior surveys. This participant identified himself as a “relationship-focused parent”. His LAX scores were 31 and 32 at pre- and post- intervention. The group means were  $M = 20.04$ ,  $SD = 5.95$  at pre-intervention and  $M = 18.69$ ,  $SD = 6.58$  at post-intervention. His scores in comparison to other participant indicate a high level of lax parenting behaviors. His spouse identified herself as a “task-oriented parent”. Her LAX scores were 15 and 19 at pre-and post-intervention.

Just as their LAX scores indicated he was quite inconsistent and she was not, they also displayed differences on the over-reactive parenting variable, particularly at pre-intervention. His OVER scores were 17 and 16 at pre- and post-intention. The group means were  $M = 21.80$ ,  $SD = 5.52$  at pre-intervention and  $M = 19.01$ ,  $SD = 5.03$  at post-intervention. His spouse’s scores were 24 and 10 at pre- and post-intervention.

Numerical decreases for OVER indicated a reduction in harsh parenting behaviors. Her reduction in the behaviors measured by OVER between pre- and post-intervention, help interpret the meaning behind his discussion posts, which focused on reducing aversive harsh parenting behaviors that he did not report, rather than the lax parenting behaviors that he did report.

His posts can be seen as a dialogue with her about his anxiety and worry for their child and his unhappiness over her use of aversive parenting behaviors. His motivation for group participation can then be seen as an attempt to help his spouse reduce her aversive parenting behaviors. For instance, his post from a problem-solving discussion

involved a rather lengthy argument for making less extreme punishments for rule-breaking.

The girl came home late and the father grounded her from hanging out at her friends for three weeks. The girl got really angry. From my point, it's a bad punishment. I worry it'll cause some other problem. What about one or two days grounded? It's still a bad punishment, because it will not prevent her from repeating the action. So the good punishment is kind of number related. Just like law, I would accept 20 hours of community service for cussing my neighbor but will be really mad for putting me in jail for 12 months. Same thing for kids! I believe that as long as we parents can make appropriate punishments, kids will accept it willingly and correct their behavior gradually. In terms of how to find good punishments, that's why I am here and wish to get the right answer for my family and my son.

His spouse's discussion reply asserts a different position and highlights a different aspect of behavior management, the need for parents to work in concert rather than at cross-purposes.

No one would like a punishment, especially teens. They will try everything to avoid a punishment or get away from being punished. That might be one of the differences between an adult and a teen. A punishment may not always make children happy, but that doesn't mean this punishment is not a good one. I think the important thing is if you do it consistently and parents are on the same page when you think this is the right thing to do.

In fact, the spouse used the parenting behavior typology from the individual learning modules to analyze their difference in parenting values and to clarify the basis of their long-standing conflict over parent management.

Maybe that's why our teens are having issues with us? May be this is a difference between task-focused parent and relation-focused parent? A task-focused parent cares more about problem solving, while a relation-focused parent cares more about feelings?

The spouse's OVER -change score of 14 indicated a significant decrease in over-reactive parenting behaviors, which was corroborated by two later posts:

Post 1: Stay calm, intend to help not blame, praise, be patient, and be part of it would be key elements. I like the ideas about having periodic family meetings, keeping a family issues tracking sheet, and notice of a job well done. I will be trying to use these techniques.

Post 2: Now I can see myself doing more often what the dad is doing on video clip 2 [balanced parenting]. It does help. My son listens more. As he gets older, we give him more room to handle things on his own under mutually agreed conditions and praise him when he does right. Things have gotten a little better than a year ago. Our goal is to increase his compliance rate by participating in this program, learning from other parents, and continuing working with our son.

The final upper extreme participant was a female in the third participant group. She rated herself as having help in the parenting role at home but in a later discussion post: “I totally know where you're coming from as far as giving in for so many years goes. I've essentially been a single parent to an only child. And indeed, sometimes it does feel like we're suffering payback!” Her youth ODD ratings did not find likelihood for ODD. However, she reported she had been concerned about him for more than two years and in a later post indicated he had been unable to attend school due to “severe social anxiety” for which he received treatment at an outpatient psychiatric facility.

Like the other upper extreme participants, the applications of module content and mutual aid were characteristics of this participant's posts. Her high change score for SAM was accompanied by improved performance in parenting behaviors with a full-scale PSA change score of 8, a LAX change score of 6 and an OVER change score of 2. At six weeks post program, she reported the following change in her parenting perspective. It can be observed to have been informed by both the application of module content and mutual aid: “It helped me realize that my son's attitudes and behaviors are not all that different from those of other kids his age; that there are other parents going

through similar challenges; and that there are positive ways to deal with these challenges.”



Table 8

Characteristics of Participant Discussion Posts at Upper and Lower Extremes for Parenting Self-Agency		
Group Mean: Social Agency Change Score (M = 2.47) (SD= 4.55)	<u>Applies Module Content</u>	<u>Mutual Aid</u>
-8	<p><i>Lower Extreme Participant in the fourth intervention group. Youth rating of no likelihood for DSM-IV oppositional defiant disorder diagnosis. PSA CS = -2; LAX CS = -1; OVER CS = 0; Monitoring = -1</i></p> <p><i>Stay Calm:</i> Mom was clearly upset and reacted. I love the idea of sending them to their room for both [parent and child] to stop and plan what they are going to say.</p> <p><i>Parenting Style:</i> I discovered I use relationship style parenting and that is not working very well. My daughter needs more structure and I need to work on that.</p>	<p><i>Mutual Support:</i> I think [program] will help me connect with other parents that are going through the same sort of thing.</p>
+9	<p><i>Upper Extreme Participant in the second intervention group. Youth rating of likelihood for DSM-IV oppositional defiant disorder diagnosis. PSA CS = 0; LAX CS = -1; OVER CS = +1</i></p> <p><i>Parenting Style:</i> In fact, I completely agree with [participant's name] point "a good punishment was whatever prevented them from repeating the action. We all knew that punishments are not the goal and they're nothing more than solutions to reach the goal.</p> <p><i>Stay Calm:</i> Staying calm is the first thing we should always keep it in mind. But how can we stay calm when negative things happen and cause negative moods coming from the bottom of our heart?</p> <p><i>Joint Problem-Solving:</i> I really wish my wife and I would do some things the way you guys are doing. Because having kids involved in discussing the punishments is not only making kids really understand what he/she did was wrong but also making the relationship even closer.</p>	<p><i>Sharing Data:</i> I am relationship-oriented father. Unfortunately, I am still not getting along with my 16 year-old son. Even though his behavior and grades are not acceptable but I am not blaming him. I think that something is wrong with me or our parenting.</p> <p><i>All in the Same Boat:</i> As parents, even bad parents, we all wish our kids become good men/women. We all have the same goal we're trying to reach."</p>

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- +10 *Upper Extreme Participant in the second intervention group. Youth rating of likelihood for DSM-IV oppositional defiant disorder diagnosis. PSA CS = + 10; LAX CS = + 4; OVER CS = + 5; Monitoring = +1*
- Parenting Style:* My goal is to work on my parenting styles to become more balanced. Also, to understand where my emotional trip points are, so that I can remain in control.
- Staying Calm:* Threatening to break her CD, I believe that only reinforced her destructive behavior. He definitely needed to confront her about her destructive behavior, but not by yelling. I do believe that some form of punishment is appropriate. Something like revoking an allowance until there is enough money to pay for the item that she destroyed.
- Coping Persistence:* I need to remain consistent and continue to work at this because the child/parent relationship isn't going to get any better by giving up!
- All in the Same Boat:* I can see that I am not the only parent having these struggles with my child and the parenting style that I have been using isn't working. We are all having difficulties with our child even though our particular situations may be different from each other.
- All in the Same Boat:* It helps to see what each parent is struggling with and what they are doing to help resolve the problem.
- 
- +9 *Upper Extreme Participant in the third intervention group. Youth rating of no likelihood for DSM-IV oppositional defiant disorder diagnosis. PSA CS = +8; LAX CS = +6; OVER CS = +2*
- Parenting Style:* My parenting style is "balanced," and I am a low-key, calm parent. I've always tried to respect my son for who he is, but I want him to learn how to become a responsible, self-efficient adult. I'm afraid my "balanced" style of parenting may actually be out of kilter and needs some adjustments!
- Compliance Rate:* My compliance rate is right about 50%. I think that's mostly because I am not firm enough with my directions.
- Coping Persistence:* It's reassuring that other parents are also taking a step back to look at their parenting style with a new awareness of vocal and physical cues they give when confronting their kids. I'm glad I'm not alone.
- Sharing Data:* To [participant name] - I particularly like your wording "...begin our interactions from a calm, centered place." Somehow that brings it all together for me!
- Mutual Support:* I have learned a lot from this last training session and from the suggestions provided by our little forum.
-

### **Perspective Transformation at Follow-Up**

Participants who identified a perspective transformation described a variety of experiences that accounted for change. For example, in a final discussion post, a married participant from the second intervention group shared that she and her husband had realigned their parenting values in a positive way through program participation. In the LAS she stated, “I began seeking the ideas of my husband and others and changed my attitudes toward my son's misbehavior”.

A participant from the third intervention group had contributed several discussion posts that included her immense worries about her son's future. In the LAS she summarized the change in her perspective:

I have come to realize that I am not my child, and my child is not me, therefore I cannot expect him to behave just as I would in any given circumstance. I need to allow him to be himself more, and not worry so much that he's not acting as I would.

In another discussion post, a participant from the fourth intervention group described frustration with the challenges of adapting parenting behaviors to the new demands of adolescence. In the LAS he summarized his perspective changed, due to the following: “Being open minded about my own behavior and learning new ideas from the program and group discussion.”

The LAS also asked participants who identified they had experienced a change in their perspective to identify what parts of the program influenced their change. Eleven of the thirteen participants that identified perspective transformation rated the content in the web-based learning modules, as well as their participation in the discussion forum to have influenced that change. A participant who identified perspective change was influenced by learning module content and discussion explained their combined

influence, "...there are other parents going through similar challenges; and there are positive ways to deal with these challenges." A participant from another intervention group made a similar observation, "I found the support of others and the videos were the catalyst to change."

Two of the participants who identified they had experienced a change in their perspective identified only the learning module content as an influence. Of these two, one was the lower extreme participant identified in the matrix above. The other was a participant from another intervention group, whose discussion posts had demonstrated mutual aid processes, as well as application of module content. For instance, this participant illustrated the application of learning module content as well as mutual aid processes for mutual support and sharing data in the following quote:

I really liked the suggestions, and corresponding reflection points, for allowing natural consequences and presenting logical consequences. It makes so much sense, and it seems like a great way to reduce some of the stress and reactivity that has become too prominent in my parenting approach.

## CHAPTER 5: DISCUSSION

### **Summary and Overview of Findings**

A primary research aim of this study was to pilot a program design for online psychoeducational intervention with small user-groups, like those that would be served in mental health settings. The need for this research was in part based on the assumption that technology growth and enhancements will encourage further advances in the uses of digital technology for the delivery of mental health treatment services.

Currently, online psychoeducational interventions have primarily been delivered for the area of prevention. The two dominant designs used for prevention delivery that have been discussed in this study would present limitations for use with small group-based mental health interventions delivered through agencies. The limitations for these designs are of necessity, because preventative psychoeducational interventions are delivered to large populations, where participants are anonymous. One large-user group model for prevention with mental health problems like anxiety disorders and depression provides only individual-based learning. Without a social learning component, these services may fail to meet many participants' needs for interactivity and social learning.

The other large-user group model of prevention provides interactivity with multiple group discussion forums based around a range of relevant topics. However interaction in these groups is not fully integrated with the individual web-based learning module content. Participation is self-directed and self-paced, so that users can access either or both components.

When this model was applied to a psychoeducational intervention for users receiving parent management training, participation in a mutual aid/self-help group discussion forum was rated as poor (Taylor et al., 2010). The researchers hypothesized that participation through group forums may only be successful after a subscriber threshold of several hundred participants has been reached.

In another study of online family life education, participants were seen to prefer either the individual learning content modules or the group discussion forums, but there were not enough subscribers to the discussion forum for sufficient interactivity to emerge (Steed, 2005). If several hundred subscribers are needed, this would effectively limit group discussion forums from the design of online psychoeducational interventions for treatment with small user-groups.

### **Intervention Design Model**

The activity of lurking was identified as an obstacle for achieving interactive participation in the large-user group model (Farvolden & Mierlo, 2003; Mierlo, 2014). It was proposed in this study that lurking occurs in the service of vicarious experiencing to achieve positive self-efficacy appraisals. To address both the obstacles of achieving high subscriber thresholds and of lurking, the intervention design for this research with small-user groups replaced voluntary, self-paced participation with facilitator-paced participation in an asynchronous discussion forum. Discussion topics were prioritized and sequenced with skills-based learning content from individual web-based modules. Interaction was facilitated through problem-based learning discussions.

### **Program Retention**

The small-user group model designed for the delivery of psychoeducational intervention had high rates of participant retention and 19 of 24 (79%) participants who entered the discussion forum completed the program. In this online intervention, facilitation included frequent emails to participants reminding them of the availability of the discussion forum, identifying time parameters for participation and providing navigation links to discussion forums and individual learning module content. Email was also used to provide encouragement and reinforcement for participation and to connect participants, whose discussion posts containing reactions to one another's contributions. A further aspect of facilitation was topic sequencing of learning content for problem-based discussions. This stands in contrast to the voluntary, self-paced mutual aid/self-help model of discussion, where multiple topics are available for discussion.

### **Study Aim 1**

The first study aim was to learn about the effectiveness of the online psychoeducational program for achieving parent training outcomes. The hypotheses that participation would increase parenting self-efficacy and reduce inept parenting behaviors were supported. Large effects were found for increased parenting self-agency, as well as the reduction of inept parenting behaviors of over-reactivity/coercion. In addition, although a significant difference at program start was found for greater parenting self-agency among participants receiving help compared to those without help, this difference was no longer significant at program end. Although, this was a measure of difference at each data collection point, it is promising, as research literature on PMT outcomes finds

small training effects for single-parent headed households (Reyno & McGrath, 2006).

Further, the number of ODD symptoms reported for youth was reduced between pre- and post-intervention, as was the number of youth rated as experiencing symptoms that provided evidence for the likelihood of a diagnosis of oppositional defiant disorder.

**Lax parenting behaviors.** The hypothesis that lax, inconsistent parenting would reduce through program participation was not supported. Related to this finding was an inverse association between self-agency and lax parenting behaviors at program start and program end. Self-efficacy has been shown to mediate performance outcomes (Bandura, 1997). Confidence and coping-modeling responses may not have been sufficiently available to those with low self-agency to aid their reduction of high levels of lax, inconsistent parenting behaviors.

In addition, there may have been insufficient individual learning module content contained in the web-based module that was devoted to modifying inconsistent and permissive parenting practices. Further, the video vignettes used for problem-based learning in the discussion forums only included those that depicted parents who demonstrated harsh and coercive parenting behaviors. Unlike, parents seeking to reduce harsh, coercive behaviors and that sought to “stay calm” and manage their anger, there were no simple directives for reducing a lax, permissive style of parenting. The content analysis identified few themes that could be associated with active behaviors for the reduction of lax parenting.

A participant from the third intervention group, whose LAX change scores did demonstrate a reduction in lax parenting behaviors, illustrated the complexity for shifting inconsistent behaviors through verbal reminders that are used in self-talk. Her reflection



moved past simple admonitions like “staying calm” to the more nuanced position of being “decisive and commanding” while remaining “encouraging and positive whenever possible”.

My compliance rate is right about 50%. I think that's mostly because I am not firm enough with my directions. I have always had a balanced parenting style, but I'm not very strong when it comes to follow-through, and my son knows how to push my buttons and take advantage of the relationship aspect of the balanced parenting style. I tend to ask him to do tasks instead of tell him. I'm learning, however, to be more decisive and commanding, but still be encouraging and positive whenever possible.

### **Study Aim 2**

The second study aim was to explore whether participation in a facilitator-paced, topic-sequenced discussion forum delivered through problem-based learning, contributed to learning effectiveness. Extreme case analysis was used to identify whether there were characteristics of discussion post content that differentiated participants at the upper extremes of self-agency change from those at lower extremes of self-agency change. Analysis determined the upper extreme participants differed, as their discussion posts were more detailed and they engaged in a number of mutual aid processes, while applying individual web-based learning module content. This could suggest that the integration of individual and social features for learning effectiveness encouraged the development of mutual aid, which produced further interactive effects on learning for the more successful participants.

There was only one participant whose self-agency score decreased as much as nearly two standard deviations between pre- and post-intervention. Although her posts demonstrated application of individual module learning content, there were no posts that demonstrated the processes of mutual aid. This was a participant from the fourth

intervention group and she stated: “I think if there had been more parents on the discussion board I would have posted more”.

**Application of individual web-based learning module content and mutual aid processes.** The application of individual web-based learning module content was frequently delivered through mutual aid processes in group discussions. For instance, after applying module content by completing a self-assessment of parenting style, a participant from the third intervention group posted this brief example of increased confidence: “It’s nice to know that I am at least on the right track. My son makes me question that sometimes”. In another example from the third intervention group, a parent “shared data” and described the successful application of module content:

I also like the idea of speaking softly, yet convincingly. He doesn't usually hear what I'm saying when I'm angry and yelling, anyway. I can almost see him shut down, turn away and build walls when I'm offensive. On the other hand, when I take the time to acknowledge and complement his successes (compliant behavior), he lights up and usually seems more invested in being compliant.

In this post she is referring to skills-based learning content in module four that included communication skills for delivering social reinforcers, when engaging adolescent in making behavioral changes.

**Parenting transformation.** At six weeks the learning activity survey identified thirteen (68.4%) of the participants had experienced a perspective transformation in their parenting values, beliefs, opinions or expectations. Eleven participants identified that the use of both web-based module learning content and discussion forum participation contributed to transformation. A participant, who identified her participation in the online program resulted in a parenting perspective transformation and only identified the web-based learning modules as having contributed to transformation, posted a description

of how this occurred, which reflected an underlying lack of confidence, an element of parenting self-agency:

I realized I use the relationship style parenting and that is not giving my child enough structure that she must need. I include her too much in decisions and adult decisions. I realize it, but have not been able to change it that much.

In contrast, a participant from the same intervention group, whose self-agency scores improved more than one standard deviation between pre- and post-test, reported in her LAS that perspective change had happened through the mutual aid processes of mutual support and sharing data. She summarized this as, “Just getting other parents input and “better” ways to handle situations”. Her summarization of parenting perspective transformation through mutual aid is consistent with Yalom and Leszcz’s (2005) description of the curative factors that operate as therapeutic forces in groups, such as “imitative behavior”, “instillation of hope” and “universality”, which is similar to the mutual aid process of “all in the same boat”.

**Limitations.** A major limitation for this intervention mixed methods study was the lack of a randomized control group. The lack of randomization limits interpretation of participation and outcomes, while introducing numerous threats to reliability and validity. However, quantitative findings were corroborated and enriched by the qualitative data derived from discussion forum posts and the six-week post-intervention learning activity survey. The inclusion of qualitative data, also allowed for interpretation of mismatches between changes in self-agency that were not accompanied by reductions in inept parenting behaviors.

### **Implications for Clinical Practice with Online Group Work**

An important result from study was that facilitator-paced, small-user group, problem-based learning discussion forums can deliver a social context that develops mutual aid. Mutual aid is an empowering process (Borkman, 1999; Dunst, Trivette, Boyd, & Brookfield, 2004; Magura et al., 2007; Shulman & Gitterman, 1986; Steinberg, 2004) and in this study, extreme case analysis found it to be associated with increases in parenting self-efficacy and parenting behavioral change.

Facilitator-pacing in the discussion forums embodied an additional mutual aid process of “mutual demand” (Steinberg, 2004, p.45). Mutual demand operates through the social worker’s role as a facilitator to the enactment of the mutual aid processes, as described by Shulman and Gitterman (1986): “While the potential for mutual aid is present in the group, members will need the help of the worker to activate its power and to overcome many obstacles that can frustrate its effectiveness” (p.3).

When these processes are successfully enacted, the power of the helping relationship shifts from the authority of the leader to the actions of the collective. Unlike the voluntary, self-directed participation of the large-user group model, facilitator-pacing encouraged participation through weekly individual e-mails to participants to request, reinforce, link, and connect discussions. All are examples of a demand for the action of participants. Through these activities, participants are encouraged join within a social context, in which their contributions are both necessary and important to the success of the group.

**Family participation.** From a clinical practice perspective, the study also illustrated that participation by family members in an online psychoeducational program

enabled the resolution of long-standing conflict. In the example that was discovered through extreme case analysis, a participant and his spouse, who was also a member of his discussion forum, were able to engage in a dialogue that applied individual web-based learning content. They were able to resolve a central disagreement about management of their son that had been a source of conflict for at least two years.

### **Implications for Technology-based Social Work Practice**

Online intervention can be criticized based on the presence of a digital divide, where some groups do not have resources needed for internet access. Social work's mission is defined by ethical concerns for challenging the opponents of diversity and promoting social and economic justice for oppressed populations. Given its mission, how can technology like that used in this study play a role in social work practice, where many of its clients stand on the non-participating side of a digital divide?

Social work is deeply grounded in progressive educational theories and traditions. Learner-centeredness, social reform and pragmatic methodology are addressed in social work education and practice as client-centeredness, social justice and evidence-based practice. As technology continues to define how we communicate, social work practitioners are challenged to make decisions about their use of technology and the role it will play in practice with clients, not only for communication but also for service delivery.

In fact, the digital divide has been reduced for some groups that are socially and economically oppressed. Technological advances are now shifting user demographics due to the proliferation of less expensive cellular technology that no longer relies on desktop computing hardware. As new digital spectrums have become available and have

increased cell phone data applications, wireless networking has increased the diversity of users beyond a white, well educated, and higher income populace that have been the major users of desktop computing (United States Census Bureau, 2013, June 10).

For example, researchers with the Pew Internet & American Life Project (Horrigan, 2008) found that Latinos and Blacks surpassed Caucasians' use of non-voice cell phone data applications, like accessing the internet for obtaining information and texting. Lower SES individuals were active in their use of cell phones for non-voice data applications like taking pictures, texting and obtaining information from the Internet. Daily use of non-voice cell phone data applications occurred for 44% of users with annual household incomes of less than \$30,000.

While the program delivered to participants in this study was designed for delivery through desktop computers, technology is now available, so that both individual learning modules and discussion forum components can be delivered through cell phones when supported by the use of applications that allow animations, videos and websites to be viewed.

### **Future Research**

Future studies should be undertaken for the purposes of including a randomized control group and a larger sample size to reduce the methodological weaknesses within this study's design. Background data like gender, age and education could not be entered to obtain analysis of interactive and main effects on outcomes, because of the small sample size.

In addition, more robust studies can provide further tests of this pilot study's propositions for the design and delivery of online psychoeducational interventions to

small user-groups. Central to these propositions was the need to identify effective models for delivery that can integrate both individual and social features of learning effectiveness. The model designed for this study included topic-sequenced facilitation of problem-based learning in an asynchronous discussion forum. The small user-groups in this intervention study were similar in size to those currently served in face-to-face mental health settings. Group participation was not limited by the lurking behaviors that are associated with the 90-9-1 Rule that has been seen to prevail in large-user group models of psychoeducational prevention.

Future research into effective online delivery is also needed, based on the study's assumption that the internet will become a more conventional mode of mental health treatment and not just prevention. As such, the intervention model designed for this pilot study could hold promise for addressing gaps in the accessibility, availability and utilization of face-to-face mental health services. It could be adapted for use with other online, group-based psychoeducational interventions that play essential roles in holistic mental health treatment.

Finally, future studies should investigate the delivery of the intervention through cell-phone technology. Cell-phone technology has been seen to bridge the digital divide and this study's intervention design could be readily adapted for participants that are unable to participate through desktop computers.

## APPENDICES

## APPENDIX A: PURPOSEFUL SAMPLING SCREENING TOOL

Contact Information:

Yes    No

Participant is a parent or caretaker of child between ages 10 to 16		
Wants to obtain help for their child's behavioral problems of noncompliance		
Not currently participating in other parent management training programs		
Has a working e-mail address		
Can read, comprehend, and write in the English language		
Has ready access to the Internet through either a DSL or broadband connection		
Child demonstrates risk for harm to themselves or others;		
Child demonstrates active substance abuse;		
Participants that are seeking help to comply with a court order, e.g. custody modification.		



## APPENDIX B: DEMOGRAPHIC DATA SURVEY

Please take a few minutes to fill out this survey. All information is kept confidential and no individual information is discussed. Thank you for your participation.

### What is your age?

- |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 25 or under           | 26 to 40              | 41 to 55              | 56 or older           |

### What is your gender?

- |                       |                       |
|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> |
| female                | male                  |

### How do you describe yourself?

- |                           |                         |                       |                       |                                   |                                    |
|---------------------------|-------------------------|-----------------------|-----------------------|-----------------------------------|------------------------------------|
| <input type="radio"/>     | <input type="radio"/>   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>             | <input type="radio"/>              |
| Black or African-American | Asian or Asian-American | Non-Hispanic White    | Hispanic or Latino    | American Indian or Alaskan Native | Hawaiian or Other Pacific Islander |

### If your child received assistance in the past, please indicate the type(s) received. (Check all the apply)

- |                       |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Family counseling     | Parent counseling     | Child counseling      | Medication            | Hospitalization       |

Other (please specify):

**Have you sought assistance from any of the following individuals or groups? (Check all the apply)**

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Primary Care Physician or Family Doctor	School Counselor	Mental Health Counselor	Pastor or Church Counselor	Relative	Friend

**What is your parenting status?**

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Biological parent	Step-parent	Other relative	Guardian

**What is your marital status?**

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Married	Divorced	Single

**Are there other adults in the home?**

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
none	Biological Parent	Step parent	Legal guardian	Unmarried partner	Grandparent

**If other adults reside in your household, who also helps with parenting? (Check all that apply)**

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
none	Biological Parent	Step parent	Legal guardian	Unmarried partner	Grandparent

**Are you currently...**

Employed for wages	<input type="radio"/>
Self-employed	<input type="radio"/>

Out of work for less than one year ☐

Out of work for more than one year ☐

A homemaker ☐

A student ☐

Retired ☐

Unable to work ☐

**When do you work (Check all that apply)**

☐ Days ☐ Evenings ☐ Weekends ☐ Other \_\_\_\_\_

**What is your educational status?**

Less than high school diploma or GED ☐

High school diploma or GED ☐

1-3 years college ☐

College graduate ☐

**What is your child's gender?**

☐ Female ☐ Male

**During the current school year, overall how does your child do in school?**

☐ Outstanding ☐ Above average ☐ Average ☐ Needs improvement ☐ Failing

**What is your child's age?**

☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16

**How long have you been concerned about your child's behavior?**

☐

Less than 6  
months

☐

6 to 12 months

☐

13 to 24 months

☐

More than 25  
months

## APPENDIX C: PARENTING SCALE – ADOLESCENT VERSION

At one time or another, all youth and teens misbehave or do things that would be harmful, that are “wrong”, or that parents don’t like. Examples include:

- hitting someone,
- whining
- lying
- forgetting homework
- refusing to go to bed
- coming home late

Parents have many different ways of styles of dealing with these types of problems. Below are items that describe some styles of parenting.

*For each item, check the box that best describes your style of parenting during the past two months with your child.*

1. When I’m upset or under stress...

<i>I am picky and on my child’s back</i>	<i>I am no more picky than usual</i>
7 6 5 4 3 2 1	
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	

2. When my child misbehaves...

<i>I usually get into a long argument with my child</i>	<i>I ignore the pestering</i>
7 6 5 4 3 2 1	
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	

3. When my child is out of sight...

<i>I often don’t know what my child is doing</i>	<i>I always have a good idea of what my child is doing</i>
7 6 5 4 3 2 1	
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	

4. When my child misbehaves...

<i>I raise my voice and yell</i>	<i>I speak to my child calmly</i>
7 6 5 4 3 2 1	

☐ ☐ ☐ ☐ ☐ ☐ ☐

5. When my child does something I don't like...

*I do something about it every time it happens*

*I often let it go*

1 2 3 4 5 6 7

☐ ☐ ☐ ☐ ☐ ☐ ☐

6. When there is a problem with my child...

*Things build up and I do things I don't mean to do* *Things don't get out of hand*

7 6 5 4 3 2 1

☐ ☐ ☐ ☐ ☐ ☐ ☐

7. When my child doesn't do what I ask...

*I often let it go and end up doing it myself*  
*action*

*I take some other*

7 6 5 4 3 2 1

☐ ☐ ☐ ☐ ☐ ☐ ☐

8. When I give fair threat or warning...

*I often don't carry it out*

*I always do what I said*

7 6 5 4 3 2 1

☐ ☐ ☐ ☐ ☐ ☐ ☐

9. If saying 'no' doesn't work...

*I take some other kind of action*  
*something nice so he or she will behave*

*I offer my child*

1 2 3 4 5 6 7

☐ ☐ ☐ ☐ ☐ ☐ ☐

10. When my child misbehaves...



APPENDIX D: PARENTING SELF-AGENCY MEASURE (5 item version)

(1= rarely to 7 = almost always)

1. I feel sure of myself as a mother/father.
2. I know I am doing a good job as a mother/father.
3. I know things about being a mother/father that would be helpful to other parents.
4. I can solve most problems between my child and me.
5. When things are going badly between my child and me, I keep trying until things begin to change.



APPENDIX E: EVIDENCE-BASED QUESTIONS FOR ASSESSING LIKELIHOOD  
OF MEETING DSM-IV CRITERIA FOR OPPOSITIONAL DEFIANT DISORDER

1. Has your child in the past three months been spiteful or vindictive?
2. Has your child in the past three months blamed others for his or her own mistakes?

*(Any “yes” is a positive response.)*

3. How often is your child touchy or easily annoyed?
4. How often has your child lost his or her temper?
5. How often has your child argued with adults?
6. How often has your child defied or refused adults' requests?

*(Two or more times weekly is a positive response.)*

7. How often has your child been angry and resentful?
8. How often has child been deliberately annoying to others?

*(Four or more times weekly is a positive response.)*

## APPENDIX F: LEARNING ACTIVITY SURVEY (MODIFIED VERSION)

This survey helps us learn about the experiences of adult learners. We believe that important things happen when adults learn new things. Only with your help can we learn more about this. The survey only takes a short time to complete, and your responses will be anonymous and confidential. Thank you for being part of this project; your cooperation is greatly appreciated.

1. Thinking about experiences in the PTZ program,  
*Check off any statements that may apply.*
  - ☐ A. I had an experience that caused me to question the way I normally act.
  - ☐ B. I had an experience that caused me to question my ideas about social roles. (Examples of social roles include what a mother or father should do or how a child should act).
  - ☐ C. As I questioned my ideas, I realized I no longer agreed with my previous beliefs or role expectations.
  - ☐ D. Or instead, as I questioned my ideas, I realized I still agreed with my beliefs or role expectations.
  - ☐ E. I realized that other people also questioned their beliefs.
  - ☐ F. I thought about acting in a different way from my usual beliefs and roles.
  - ☐ G. I felt uncomfortable with traditional social expectations.
  - ☐ H. I tried out new roles so that I would become comfortable or confident in them.
  - ☐ I. I tried to figure out a way to adopt these new ways of acting.
  - ☐ J. I gathered the information I needed to adopt these new ways of acting.
  - ☐ K. I began to think about the reactions and feedback from my new behavior.
  - ☐ L. I took action and adopted these new ways of acting.
  - ☐ M. I do not identify with any of the statements above
2. Since you began the PTZ program, do you believe you have experienced a time when you realized that your parenting values, beliefs, opinions or expectations had changed?
  - ☐ Yes. If "Yes" please go to question #3 and continue the survey.
  - ☐ No. If "No" please go to question #6 and continue the survey.
3. Briefly describe what happened.
4. Which of the following influenced this change? (*Check all that apply*)
 

Was it a person who influenced the change?

  - ☐ No.
  - ☐ Yes. If "was it....(*Check all that apply*)

- ☐ Another parent's support
- ☐ A question from another parent that challenged you
- ☐ Your facilitator's support
- ☐ A question from you facilitator that challenged you
- ☐ The group's support

Was it a part of the program that influenced the change?

- ☐ No.
- ☐ Yes.

If "Yes" was it....(Check all that apply

- ☐ Videos demonstrations in Module One, "*Parenting Styles*".
- ☐ Self-Quiz in Module One
- ☐ Facilitator presentation in Module One
- ☐ Group discussion in Module One
- ☐ Facilitator questions in Group Discussion for Module One
- ☐ Videos demonstrations in Module Two, "*Avoiding Responsibilities*".
- ☐ Self-Quiz in Module Two
- ☐ Facilitator presentation in Module Two
- ☐ Group discussion in Module Two
- ☐ Facilitator questions in Group Discussion for Module Two
- ☐ Download information in Module Two
- ☐ Videos demonstrations in Module Three, "*Stubborn Noncompliance*".
- ☐ Self-Quiz in Module Three
- ☐ Facilitator presentation in Module Three
- ☐ Group discussion in Module Three
- ☐ Facilitator questions in Group Discussion for Module Three

Was it a significant change in your life that that influenced the change?

- ☐ No.
- ☐ Yes.

If "Yes" was it....(Check all that apply

- ☐ Marriage
- ☐ Birth/adoption of a child
- ☐ Moving
- ☐ Divorce/Separation
- ☐ Death of a loved one
- ☐ Change of job

☐ Loss of job

☐ Other\_\_\_\_\_

5. Thinking back to when you realized that your views or perspective had changed, what did your participating in the PTZ program have to do with the change you experienced?

6. Would you characterize yourself as one who usually thinks back over previous decisions or past behavior?

☐ No.

☐ Yes.

Would you say that you frequently reflect upon the meaning of your participation in PTZ for yourself, personally?

☐ No.

☐ Yes.

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## CURRICULUM VITAE

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### EDUCATION

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1973	Indiana University Purdue University at Indianapolis B.A., Sociology.

### TEACHING EXPERIENCE

2012 - Present	<p><i>Indiana University School of Social Work, Indianapolis, IN</i> <i>Lecturer:</i> In addition to teaching, have participated in the online course design and development team for the MSW Direct program. Online courses that were developed included Human Behavior in the Social Environment I (D503) and II (D513), Assessment in Mental Health and Addictions (D517), Practice Research Integrative Seminar: Single Subject Designs (D623). Courses in development include Social Policy and Services (D618) and Advanced Generalist Practice I (D641). Work in online course development has been joined with planning and collaboration with other university entities for the purposes of meeting Quality Matters Rubrics for course usability and accessibility.</p> <p>Individual development projects include development of an online module for the introduction to assessment and intervention for Strengths Oriented Family Therapy (SOFT) and a module on multi-theory practice using the Strengths, Area of Focus, Limitations and Theories the Redress model (SALT).</p> <p>Taught the inaugural HBSE I (D503) online course and have acted as online instructional coordinator and co-teacher for multiple course deliveries of D503 D513 and D517. More recently these have been joined by D618 and D641.</p>
2010-2011	<p><i>Indiana University School of Social Work, Indianapolis, IN</i> <i>Visiting Lecturer:</i> Taught undergraduate and graduate course levels for Human Behavior in the Social Environment (s221, s503), graduate level Mental Health and Addictions Practice for Individuals and Families (s685), undergraduate level Field Practicum Seminar (s400) and undergraduate Field Liaison (s482).</p>

2006-2010      *Indiana University School of Social Work, Indianapolis, IN*  
*Adjunct Faculty:* Taught Assessment in Mental Health and Addictions (s682), co-taught Individual, Family and Group Practice (s514) and acted as Teaching Assistant for Leveraging Organizational, Community and Political Systems (s663).

#### MENTAL HEALTH AND RELATED WORK EXPERIENCE

1990 – 2010      *Mercury Center, Inc., Director, Greenwood, IN*  
Director of administrative and practice activities for a behavioral health clinic. Responsibilities also included practitioner and support staff supervision; collaboration with various agencies and professionals including schools, courts, child development and mental health services agencies and primary care physicians. Was awarded grants for the provision of parent management training to a rural, a suburban and an urban school corporation.

1999-2000      *Back to Home Program, Indianapolis, IN*  
Volunteered as co-therapist for a multi-family behavioral skills training group, which was being tested with a target population of adolescents and their families where the presenting problem was “runaway”. Project outcomes were implemented in a manualized treatment program, which has been recognized as a model program by the Office of Juvenile Justice and Delinquency Prevention.

1988-1990      *Winona Hospital, Child and Adolescent Psychiatric In-Patient Program, Independent Contractor, Indianapolis, IN*  
Developed and implemented a multi-family therapy program for adolescents and their families. The program became a pivotal therapeutic element for organizing and systematizing the delivery of the range of other therapeutic elements including group, individual and single family therapy.

1987-1990      *Westside Guidance Clinic, Independent Contractor, Indianapolis, IN.*  
Provided individual and family therapy for children, adolescents and adults.

1979-1988      *Midtown Community Mental Health Center, Child and Adolescent Behavioral Clinician, Indianapolis, IN*  
Developed and practiced in a child and adolescent specialty program for an urban outreach program office within a community health center.

1975-1977      *Marion County Juvenile Court, Probation Officer, Indianapolis, IN*



Performed the legal duties and responsibilities of a probation officer including casework, case management and associated court work.

1974-1975      *Marion County Juvenile Court Detention Center, Caseworker, Indianapolis, IN*  
Provided casework services and administered a behavioral modification program for a population of early adolescent detainees.

## PRESENTATIONS

Wilkerson, D.A. (2014, April). Integrating Individual And Social Learning Strategies In A Small-Group Model For Online Psychoeducational Intervention: A Mixed Methods Study Of A Parent-Management Training Program. *The 10<sup>th</sup> Annual Doctoral Spring Symposium*, Indiana University School of Social Work, Indianapolis, IN.

Gentle-Genitty, C., Wilkerson, D., Foloran, G., Blackman, L., & Weiler, R. (2013, October). Results on model to foster outcome based transfer of theory to practice. CSWE, Texas.

Wilkerson, D.A. (2006, April). An Examination of Mutual Aid and Support for Building Parent Capacity to Intervene with At-Risk Adolescent Behaviors. *The 10<sup>th</sup> Annual Doctoral Spring Symposium*, Indiana University School of Social Work, Indianapolis, IN.

Wilkerson, D.A. & Brown, J. (2006, October) Community Alternatives for Love and Limits (CALL): A Community-Based Family Strengthening Multi-Family Intervention Program To Respond To Adolescents At Risk. *NASW-IN 30<sup>th</sup> Professional Development Conference*, Indianapolis, IN.

## PUBLICATIONS

Ouellette, P., & Wilkerson, D.A. (2013). *Electronic technologies*. Encyclopedia of Social Work, New York, Oxford Press.

Wilkerson, D.A., & Kim, H-W. (2010). "We have a lot of sleeping parents:" Comparing inner-city and suburban high school teachers' experiences with parent involvement. *Advances in Social Work, 11*(2), 144-157.

Wilkerson, D.A. & Ouellette, P. (2006). Community alternatives for love and limits (CALL): A community-based, family strengthening, multi-family intervention to respond to adolescents at risk, *Advances in Social Work, 2*(2), 266-280.

Ouellette, P., & Wilkerson, D. A. (2008). "They Won't Come:" Towards the development of a 21<sup>st</sup> century strategy for increasing parent involvement and

mutual aid for at-risk youth in middle and high schools. *School Social Work Journal*, 32 (2), 39-53.

#### AWARDS

Esprit Spirit of Inquiry Award (April, 2006). Indiana University School of Social Work, Ph.D. Program.